KITZ

GENERAL CATALOG

KITZ CORPORATION

The Reliable Brand

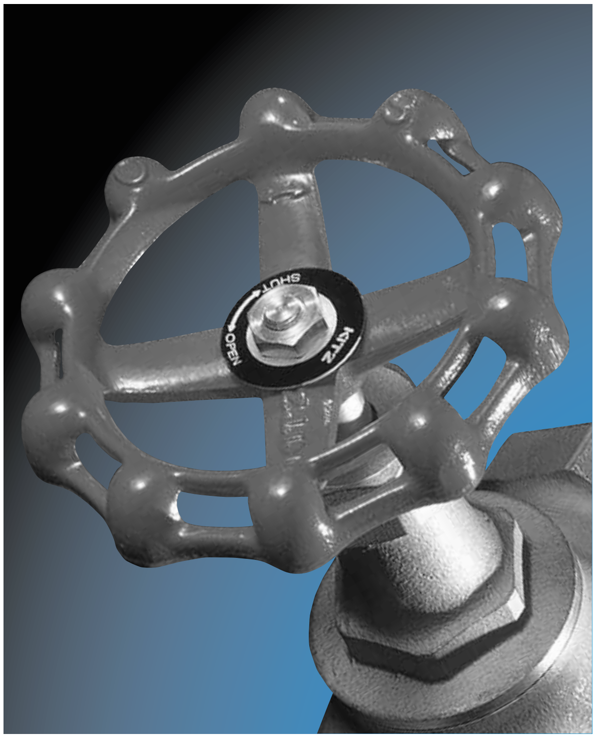
Since its establishment in 1951, KITZ Corporation has supplied products for applications ranging from those for homes to those for industrial processes, as a manufacturer of valves and other devices for the control of fluids.

Over the years, we have grown into one of the world's leading valve manufacturers. Today, the KITZ brand has a solid reputation for outstanding quality in Japan and worldwide.

As we enter a new century, concerns are growing about the global environment and access to sustainable sources of energy. We are simultaneously witnessing the advent of a society driven by sophisticated information and telecommunication technologies.

These developments will significantly alter our operating environment in the years ahead. KITZ Corporation is dedicated to increasing its corporate value through the provision of products and services rooted in originality and quality. We will focus on providing even greater satisfaction to our customers, shareholders, and the communities in which we operate.

KITZ Corporation will remain a manufacturer that concentrates on valves and other devices for controlling fluids, constantly working toward the goals of helping make our lives more fulfilling and earning the trust of all stakeholders.



A chrysanthemum-handle is a symbol of KITZ,
the brand of valve reliability.

Product Lineup Targeting Requirements for Flow Control

Valves must be engineered to meet the demands of a broad spectrum of applications. Their designs need to match the material—whether water, gas, oil, or another substance—that is to be controlled. Temperature, pressure, control systems and other factors are also key considerations. With a diverse assortment of products, KITZ Corporation is able to meet every customer need involving valves.

Technology

Starting out as a manufacturer of manual valves, KITZ Corporation now employs advanced technology and quality control expertise to meet the present-day market needs with automated, centralized, and other sophisticated fluid control techniques.

Products that are even more innovative are being developed by sharing technology within the KITZ Group and through alliances with other companies.

This is what the KITZ brand stands for.

Production

An exclusive production system, extending from order receipt through development, manufacture, and delivery, eliminates waste, cuts costs, and speeds up deliveries.
Backing up the reliability of KITZ products further are exacting testing standards and a rigorous quality management program.

This is what the KITZ brand Stands for.

Major Production Locations

Japan

Plants in Japan handle everything from product development through manufacture, concentrating on value-added products. Priority is given to new markets, new materials, and new design functions. Japan also plays a vital role as the “control tower” for global manufacturing activities.

Taiwan

Utilizing expertise in materials and processing technologies, our production plants in Taiwan produce mainly steel valves. These valves are sold in Japan and other countries worldwide.

Spain

This plant is a supply base for EU customers. Its main products are steel ball valves.

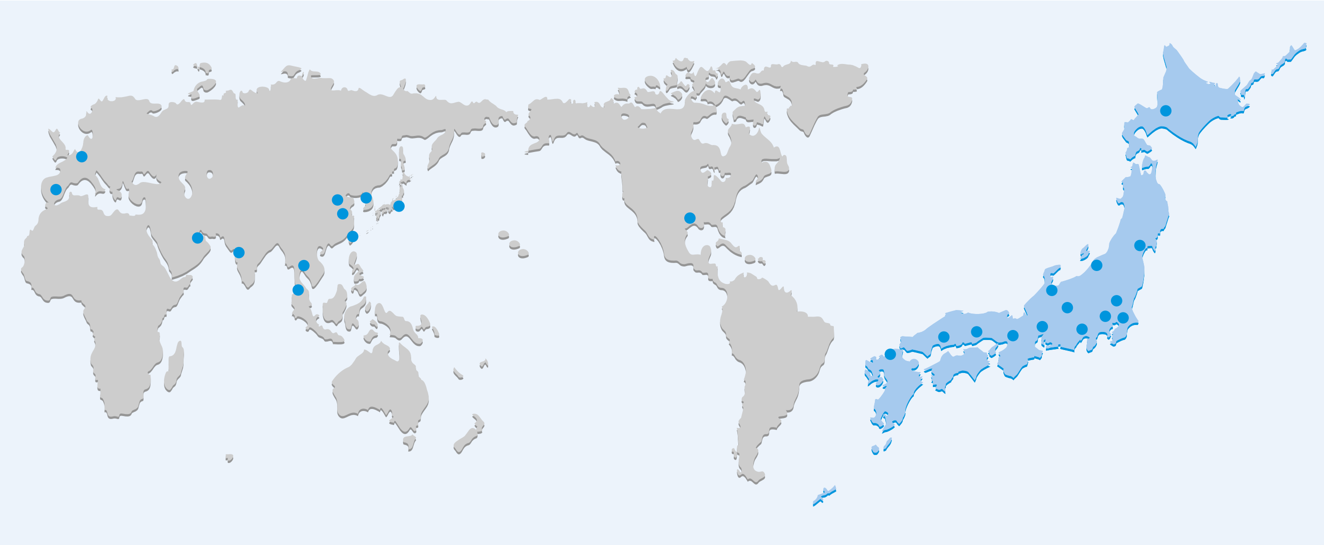
Thailand

KITZ’s plants in Thailand produce mainly copper alloy valves and butterfly valves. The plants combine sophisticated equipment with the just-in-time production method to achieve high productivity and adhere to the market-driven concept. These advantages make our plants in Thailand reliable suppliers of products to customers in many countries.

China

This country—often referred to as the world’s factory—is an extremely cost-efficient location for manufacturing valves. The KITZ plants in China manufacture steel valves for industrial applications.

Global Marketing Network www.kitz.com



Bronze & Brass

S	GATE	4
H	GATE	4
E	GATE	4
FH	GATE	4
FR	GATE	4
M	GATE	4
L	GATE	4
LB	GATE	4
125M	GATE	4
150S	GATE	4
150L	GATE	5
300LU	GATE	5
CH	GATE	5
CFS	GATE	5
CFH	GATE	5
CM	GATE	5
CL	GATE	5
C125E	GATE	5
C125M	GATE	5
C150E	GATE	5
C150L	GATE	6
C150LU	GATE	6
AKH	GATE	6
AKFS	GATE	6
AKFH	GATE	6
AK125E	GATE	6
AK125M	GATE	6
AK150E	GATE	6
AK150L	GATE	6
AK150LU	GATE	6
AK300LU	GATE	7
AS-FH	GATE	7
PN16S	GATE	7
PN16FH	GATE	7
PN20E	GATE	7
PN25H	GATE	7
A	GLOBE	7
Q	GLOBE	7
QA	GLOBE	7
G	GLOBE	7
C	GLOBE	8
CA	GLOBE	8
B	GLOBE	8
BH	GLOBE	8
D	GLOBE	8
DB	GLOBE	8
DBH	GLOBE	8
K	GLOBE	8
J	GLOBE	8
JB	GLOBE	8
150D	GLOBE	9
300D	GLOBE	9
C125C	GLOBE	9
C150D	GLOBE	9
AKA	GLOBE	9
AKG	GLOBE	9
AKC	GLOBE	9
AKCA	GLOBE	9
AK125C	GLOBE	9
AK150D	GLOBE	9
AK300D	GLOBE	10
AK300J	GLOBE	10
PN16A	GLOBE	10
PN16G	GLOBE	10
PN20D	GLOBE	10
PN25C	GLOBE	10
F	LIFT CHECK	10
R	SWING CHECK	10
O	SWING CHECK	10
OB	SWING CHECK	10
YR	SWING CHECK	11
10BWZ	WAFER CHECK	11
RF	LIFT CHECK	11
VF	LIFT CHECK	11
FT	FOOT CHECK	11
FTS	FOOT CHECK	11
150YR	SWING CHECK	11
300YR	SWING CHECK	11
CR	SWING CHECK	11
CYR	SWING CHECK	11
C150YR	SWING CHECK	12
CAF	LIFT CHECK	12
AKYR	SWING CHECK	12
AK150YR	SWING CHECK	12
AK300YR	SWING CHECK	12
AKAF	LIFT CHECK	12
PN16R	SWING CHECK	12
PN16YR	SWING CHECK	12
PN25F	LIFT CHECK	12
Y	Y TYPE STRAINER	12
CY	Y TYPE STRAINER	13
AKY	Y TYPE STRAINER	13
PN25Y	Y TYPE STRAINER	13

Cast Iron

10FCHI	GATE	18
10FCL	GATE	18
10FCLS	GATE	18
125FCHI	GATE	18
125FCL	GATE	18
125FCLS	GATE	18
125FCWI	GATE	18
10FCJ	GLOBE	18
10FCJS	GLOBE	18
125FCJ	GLOBE	18
125FCJS	GLOBE	19
10FCO	SWING CHECK	19
10FCOC	SWING CHECK	19
125FCO	SWING CHECK	19
10FWZ	WAFER CHECK	19
125FWNB	WAFER CHECK	19
125FWNBE	WAFER CHECK	19
PN16FWNBM	WAFER CHECK	19
PN16FWNBME	WAFER CHECK	19
10FCY	Y TYPE STRAINER	20
125FCY	Y TYPE STRAINER	20

Ductile Iron

10SMS	GATE	24
10SMBF	GATE	24
10SMBOF	GATE	24
16SMB	GATE	24
16SMBO	GATE	24
16SMS	GATE	24
20SLS	GATE	24
150SMBO	GATE	24
10SJ	GLOBE	24
10SJBF	GLOBE	24
10SP	GLOBE	25
10SPBF	GLOBE	25
10SPBOF	GLOBE	25
10SPD	GLOBE	25
10SPDBF	GLOBE	25
10SPDBOF	GLOBE	25
10SD	GLOBE	25
10SDBF	GLOBE	25
10SDL	GLOBE	25
10SDLBF	GLOBE	25
16SP	GLOBE	26
16SPB	GLOBE	26
16SPBO	GLOBE	26
20SY	GLOBE	26
20SYB	GLOBE	26
150SPB	GLOBE	26
150SPDB	GLOBE	26
10SF	LIFT CHECK	26
10SFBF	LIFT CHECK	26
10SN	LIFT CHECK	26
10SNBF	LIFT CHECK	27
16SF	LIFT CHECK	27
16SFB	LIFT CHECK	27
20SN	LIFT CHECK	27
10SRBF	SWING CHECK	27
16SRB	SWING CHECK	27
20SOB	SWING CHECK	27
150SRB	SWING CHECK	27
10SWZU	WAFER CHECK	28
20SWZ	WAFER CHECK	28
20SWZU	WAFER CHECK	28
10FDY	Y TYPE STRAINER	28
10FDYBF	Y TYPE STRAINER	28
16FDY	Y TYPE STRAINER	28
16FDYB	Y TYPE STRAINER	28
20FDY	Y TYPE STRAINER	28

Stainless Steel

UE	B-SERIES GATE	32
UEM	B-SERIES GATE	32
UEB	B-SERIES GATE	32
UEBM	B-SERIES GATE	32
UEL	B-SERIES GATE	32
UELM	B-SERIES GATE	32
DKUELM	B-SERIES GATE	32
10UMA / 10UMAT	A-SERIES GATE	32
10UMAM / 10UMAMT	A-SERIES GATE	32
20UMA / 20UMAT	A-SERIES GATE	32
20UMAM / 20UMAMT	A-SERIES GATE	33
150UMA / 150UMAT	A-SERIES GATE	33
150UMAM / 150UMAMT	A-SERIES GATE	33
300UMA	A-SERIES GATE	33
300UMAM	A-SERIES GATE	33
600UMA	A-SERIES GATE	33
600UMAM	A-SERIES GATE	33
10UMHA/10UMHAT	HA-SERIES GATE	33
10UMHAM/10UMHAMT	HA-SERIES GATE	33
20UMHA/20UMHAT	HA-SERIES GATE	33
20UMHAM/20UMHAMT	HA-SERIES GATE	34
150UMHA/150UMHAT	HA-SERIES GATE	34
150UMHAM/150UMHAMT	HA-SERIES GATE	34
300UMHA	HA-SERIES GATE	34
300UMHAM	HA-SERIES GATE	34
10UMAJ	AJ-SERIES GATE	34
20UMAJ	AJ-SERIES GATE	34
150UMAJ	AJ-SERIES GATE	34
300UMAJ	AJ-SERIES GATE	34
UAB	B-SERIES GLOBE	34
UCL	B-SERIES GLOBE	35
UCB	B-SERIES GLOBE	35
UD	B-SERIES GLOBE	35
UDM	B-SERIES GLOBE	35
UDB	B-SERIES GLOBE	35
UDBM	B-SERIES GLOBE	35
UJ	B-SERIES GLOBE	35
UJM	B-SERIES GLOBE	35
UJB	B-SERIES GLOBE	35
UJBM	B-SERIES GLOBE	35
10UPA / G-10UPA / 10UPAT	A-SERIES GLOBE	36
10UPAM / G-10UPAM / 10UPAMT	A-SERIES GLOBE	36

20UPA / G-20UPA / 20UPAT	A-SERIES GLOBE	36
20UPAM / G-20UPAM / 20UPAMT	A-SERIES GLOBE	36
150UPA / G-150UPA / 150UPAT	A-SERIES GLOBE	36
150UPAM / G-150UPAMT / 150UPAMT	A-SERIES GLOBE	36
300UPA / G-300UPA	A-SERIES GLOBE	36
300UPAM / G-300UPAM	A-SERIES GLOBE	36
600UPA	A-SERIES GLOBE	36
600UPAM	A-SERIES GLOBE	36
10UPAJ	AJ-SERIES GLOBE	37
20UPAJ	AJ-SERIES GLOBE	37
150UPAJ	AJ-SERIES GLOBE	37
300UPAJ	AJ-SERIES GLOBE	37
10UPAW	A-SERIES GLOBE	37
10UPAWM	A-SERIES GLOBE	37
20UPAW	A-SERIES GLOBE	37
20UPAWM	A-SERIES GLOBE	37
150UPAW	A-SERIES GLOBE	37
150UPAWM	A-SERIES GLOBE	37
300UPAW	A-SERIES GLOBE	38
300UPAWM	A-SERIES GLOBE	38
UN	B-SERIES LIFT CHECK	38
UO	B-SERIES SWING CHECK	38
UOM	B-SERIES SWING CHECK	38
UOB	B-SERIES SWING CHECK	38
UOBM	B-SERIES SWING CHECK	38
10UNA / 10UNAT	A-SERIES LIFT CHECK	38
10UNAM / 10UNAMT	A-SERIES LIFT CHECK	38
20UNA / 20UNAT	A-SERIES LIFT CHECK	38
20UNAM / 20UNAMT	A-SERIES LIFT CHECK	39
150UNA / 150UNAT	A-SERIES LIFT CHECK	39
150UNAM	A-SERIES LIFT CHECK	39
300UNA	A-SERIES LIFT CHECK	39
300UNAM	A-SERIES LIFT CHECK	39
10UOA / 10UOAT	A-SERIES SWING CHECK	39
10UOAM / 10UOAMT	A-SERIES SWING CHECK	39
20UOA / 20UOAT	A-SERIES SWING CHECK	39
20UOAM / 20UOAMT	A-SERIES SWING CHECK	39
150UOA / 150UOAT	A-SERIES SWING CHECK	39
150UOAM / 150UOAMT	A-SERIES SWING CHECK	40
300UOA	A-SERIES SWING CHECK	40
300UOAM	A-SERIES SWING CHECK	40
600UOA	A-SERIES SWING CHECK	40
600UOAM	A-SERIES SWING CHECK	40
10UW	WAFER CHECK	40
10UWS	WAFER CHECK	40
10UNAJ	AJ-SERIES LIFT CHECK	41
10UNAJM	AJ-SERIES LIFT CHECK	41
20UNAJ	AJ-SERIES LIFT CHECK	41
150UNAJ	AJ-SERIES LIFT CHECK	41
300UNAJ	AJ-SERIES LIFT CHECK	41
10UOAJ	AJ-SERIES SWING CHECK	41
20UOAJ	AJ-SERIES SWING CHECK	41
150UOAJ	AJ-SERIES SWING CHECK	41
300UOAJ	AJ-SERIES SWING CHECK	41
10UFT	BALL CHECK	42
10UFTE	BALL CHECK	42
UY	B-SERIES Y TYPE STRAINER	42
UYM	B-SERIES Y TYPE STRAINER	42
UYB	B-SERIES Y TYPE STRAINER	42
UYBM	B-SERIES Y TYPE STRAINER	42
10UYA	A-SERIES Y TYPE STRAINER	42
10UYAM	A-SERIES Y TYPE STRAINER	42
20UYA	A-SERIES Y TYPE STRAINER	42
UN3-AP-	NEEDLE mm. Series	43
UN3-BP-	NEEDLE mm. Series	43
UN3-CP-	NEEDLE mm. Series	43
UN3-DP-	NEEDLE mm. Series	43
UN3-EP-	NEEDLE mm. Series	43
UN3-FP-	NEEDLE mm. Series	43
UN26-AP-	NEEDLE mm. Series	43
UN26-CP-	NEEDLE mm. Series	43
UN26-SP-	NEEDLE mm. Series	43
UN3-CP-	NEEDLE inch Series	43
UN3-DP-	NEEDLE inch Series	43
UN3-EP-	NEEDLE inch Series	43
UN3-FP-	NEEDLE inch Series	43
UN26-CP-	NEEDLE inch Series	43

Carbon Steel

10SCLS	GATE	48
20SCLS	GATE	48
150SCLS	GATE	48
300SCLS	GATE	48
10SCJS	GLOBE	48
20SCJS / G-20SCJS	GLOBE	48
150SCJS / G-150SCJS	GLOBE	48
300SCJS / G-300SCJS	GLOBE	48
10SCOS	SWING CHECK	48
20SCOS	SWING CHECK	48
150SCOS	SWING CHECK	49
300SCOS	SWING CHECK	49

Butterfly Valve

10XJME	BUTTERFLY	58
G-10XJME	BUTTERFLY	58
(PH)PN16XJME	BUTTERFLY	58
(PH)G-PN16XJME	BUTTERFLY	58
10DJ	BUTTERFLY	58
G-10DJ	BUTTERFLY	58
VG-10DJ	BUTTERFLY	58
PN16DJ	BUTTERFLY	58
G-PN16DJ	BUTTERFLY	58
PN16DJL	BUTTERFLY	58
G-PN16DJL	BUTTERFLY	59
PN25DJE	BUTTERFLY	59
PN25DJLE	BUTTERFLY	59
G-150DJ	BUTTERFLY	59
G-150DJE	BUTTERFLY	59
G-150DJL	BUTTERFLY	59
200DJ	BUTTERFLY	59
200DJL	BUTTERFLY	59
G-200DJ	BUTTERFLY	59
G-200DJE	BUTTERFLY	59
G-200DJL	BUTTERFLY	60
G-200DJLE	BUTTERFLY	60
250DJ	BUTTERFLY	60
G-250DJ	BUTTERFLY	60
G-250DJE	BUTTERFLY	60
250DJL	BUTTERFLY	60
G-250DJL	BUTTERFLY	60
G-250DJLE	BUTTERFLY	60
G-250DJA	BUTTERFLY	60
G-250DJAE	BUTTERFLY	60
G-250DJLA	BUTTERFLY	61
G-250DJLAE	BUTTERFLY	61
10UB	BUTTERFLY	61
GL-10UB	BUTTERFLY	61
GL-150UB	BUTTERFLY	61
10NFJNE	BUTTERFLY	61
G-10NFJNE	BUTTERFLY	61
10NFJNW	BUTTERFLY	61
G-10NFJNW	BUTTERFLY	61
10D	DAMPER	61
GL-10D	DAMPER	62
GL-10A	DAMPER	62
UV	BUTTERFLY	62
FV	BUTTERFLY	62

Ball Valve

T	FLOATING BALL	74
AKT	FLOATING BALL	74
TT	FLOATING BALL	74
TO	FLOATING BALL	74
TF	FLOATING BALL	74
TG	FLOATING BALL	74
TB	FLOATING BALL	74
TL	FLOATING BALL	74
CTL	FLOATING BALL	74
TLT	FLOATING BALL	74
TFJ	FLOATING BALL	75
TH	FLOATING BALL	75
TM	FLOATING BALL	75
TK	FLOATING BALL	75
AKTK	FLOATING BALL	75
TKT	FLOATING BALL	75
TKW	FLOATING BALL	75
TN	3WAY FLOATING BALL	75
AKTN	3WAY FLOATING BALL	75
T4T	3WAY FLOATING BALL	75
T4L	3WAY FLOATING BALL	76
AK3TM	3 PIECE FLOATING BALL	76
AKTAF	FLOATING BALL	76
AKTAFM	FLOATING BALL	76
SZA	FLOATING BALL	76
AKSZA	FLOATING BALL	76
PN40SZA	FLOATING BALL	76
AKSZAW	FLOATING BALL	76
AKTAFLL	FLOATING BALL	76
10FCT	FLOATING BALL	76
10FCTB	FLOATING BALL	77
10FCTR	FLOATING BALL	77
125FCTB	FLOATING BALL	77
125FCTR	FLOATING BALL	77
10FCTB2L	3WAY FLOATING BALL	77
10FCTR2L	3WAY FLOATING BALL	77
STZ	FLOATING BALL	77
20ST	FLOATING BALL	77
10STBF	FLOATING BALL	77
10STB4TAF	3WAY FLOATING BALL	77
10STB4LAF	3WAY FLOATING BALL	78
10STR4TAF	3WAY FLOATING BALL	78
10STR4LAF	3WAY FLOATING BALL	78
10STLBF	FLOATING BALL	78
20STLB	FLOATING BALL	78
UTK	FLOATING BALL	78
UTKM	FLOATING BALL	78
UTKW	FLOATING BALL	78
UTKMW	FLOATING BALL	78
UTFM	FLOATING BALL	78
UTH	FLOATING BALL	79
UTHM	FLOATING BALL	79
UTHL	FLOATING BALL	79
UTH4LM	3WAY FLOATING BALL	79
UTH4TM	3WAY FLOATING BALL	79
U3TZM	3 PIECE FLOATING BALL	79
SWU3TZM	3 PIECE FLOATING BALL	79
10UT	FLOATING BALL	79
10UTB / G-10UTB	FLOATING BALL	79
10UTDZ	FLOATING BALL	79
10UTDZM	FLOATING BALL	80
20UTDZ	FLOATING BALL	80
20UTDZM	FLOATING BALL	80
10UTR	FLOATING BALL	80
20UTR	FLOATING BALL	80
150UTB / G-150UTB	FLOATING BALL	80
150UTBM	FLOATING BALL	80
150UTDZ / G-150UTDZ	FLOATING BALL	80
150UTDZM / G-150UTDZM	FLOATING BALL	80

300UTDZ	FLOATING BALL	80
300UTDZM	FLOATING BALL	81
150UTR	FLOATING BALL	81
300UTR	FLOATING BALL	81
10UTB2T	3WAY FLOATING BALL	81
10UTB2TM	3WAY FLOATING BALL	81
10UTB2L	3WAY FLOATING BALL	81
10UTR2L	3WAY FLOATING BALL	81
10UTB2LM	3WAY FLOATING BALL	81
10UTB4LA	3WAY FLOATING BALL	81
10UTB4LAM	3WAY FLOATING BALL	81
10UTB4TA	3WAY FLOATING BALL	82
10UTB4TAM	3WAY FLOATING BALL	82
10UTBLN	FLOATING BALL	82
10UTBT	FLOATING BALL	82
10UTBJ	FLOATING BALL	82
10UTBJM	FLOATING BALL	82
150UTBJ	FLOATING BALL	82
300UTBJ	FLOATING BALL	82
L-10UVC	LAMBDA PORT	82
L-150UVC / G-150UVC	LAMBDA PORT	82
10UTDZ1H	FLOATING BALL	83
10UTDZ1HM	FLOATING BALL	83
20UTDZ1H / G-20UTDZ1H	FLOATING BALL	83
10UTDZ3H / G-10UTDZ3H	FLOATING BALL	83
20UTDZ3H / G-20UTDZ3H	FLOATING BALL	83
10UTDZ5H / G-10UTDZ5H	FLOATING BALL	83
20UTDZ5H / G-20UTDZ5H	FLOATING BALL	83
10UTDZ6H / G-10UTDZ6H	FLOATING BALL	83
10UTDZ6HM	FLOATING BALL	83
20UTDZ6H / G-20UTDZ6H	FLOATING BALL	83
150UTDZ / G-150UTDZ	FLOATING BALL	84
150UTDZ1H / G-150UTDZ1H	FLOATING BALL	84
150UTDZ1HM / G-150UTDZ1HM	FLOATING BALL	84
300UTDZ1H	FLOATING BALL	84
300UTDZ1HM	FLOATING BALL	84
150UTDZ3H / G-150UTDZ3H	FLOATING BALL	84
150UTDZ3HM / G-150UTDZ3HM	FLOATING BALL	84
300UTDZ3H / G-300UTDZ3H	FLOATING BALL	84
300UTDZ3HM / G-300UTDZ3HM	FLOATING BALL	84
150UTDZ5H / G-150UTDZ5H	FLOATING BALL	84
150UTDZ5HM / G-150UTDZ5HM	FLOATING BALL	85
300UTDZ5H / G-300UTDZ5H	FLOATING BALL	85
300UTDZ5HM / G-300UTDZ5HM	FLOATING BALL	85
150UTDZ6H / G-150UTDZ6H	FLOATING BALL	85
150UTDZ6HM / G-150UTDZ6HM	FLOATING BALL	85
300UTDZ6H / G-300UTDZ6H	FLOATING BALL	85
300UTDZ6HM / G-300UTDZ6HM	FLOATING BALL	85
150UTDZXL / G-150UTDZXL	FLOATING BALL	85
300UTDZXL / G-300UTDZXL	FLOATING BALL	85
SCTK	FLOATING BALL	86
10SCTDZ	FLOATING BALL	86
20SCTDZ	FLOATING BALL	86
150SCTDZ / G-150SCTDZ	FLOATING BALL	86
150SCTDZM	FLOATING BALL	86
300SCTDZ	FLOATING BALL	86
300SCTDZM	FLOATING BALL	86
10SCTDZ1H	FLOATING BALL	86
20SCTDZ1H / G-20SCTDZ1H	FLOATING BALL	86
150SCTDZ1H / G-150SCTDZ1H	FLOATING BALL	86
300SCTDZ1H / G-300SCTDZ1H	FLOATING BALL	87
10SCTDZ3H / G-10SCTDZ3H	FLOATING BALL	87
20SCTDZ3H / G-20SCTDZ3H	FLOATING BALL	87
150SCTDZ3H / G-150SCTDZ3H	FLOATING BALL	87
300SCTDZ3H / G-300SCTDZ3H	FLOATING BALL	87
10SCTDZ5H / G-10SCTDZ5H	FLOATING BALL	87
20SCTDZ5H / G-20SCTDZ5H	FLOATING BALL	87
150SCTDZ5H / G-150SCTDZ5H	FLOATING BALL	87
300SCTDZ5H / G-300SCTDZ5H	FLOATING BALL	87
10SCTDZ6H / G-10SCTDZ6H	FLOATING BALL	87
20SCTDZ6H / G-20SCTDZ6H	FLOATING BALL	88
150SCTDZ6H / G-150SCTDZ6H	FLOATING BALL	88
300SCTDZ6H / G-300SCTDZ6H	FLOATING BALL	88

Ball Valve Seat

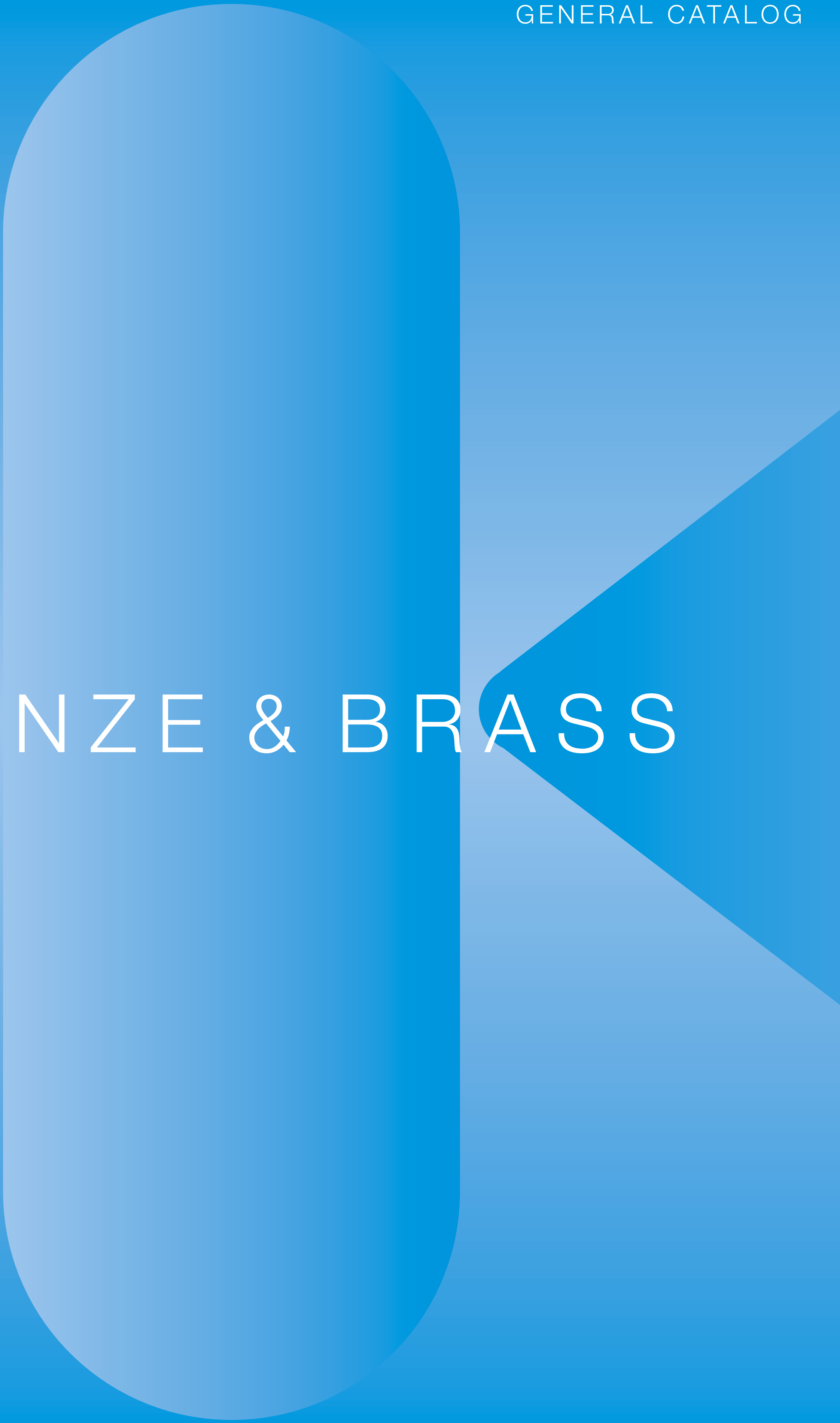
		90

Actuated Valve

EA100/200-TE	FLOATING BALL	106
EA100/200-TFE	FLOATING BALL	106
EA100/200-TGE	FLOATING BALL	106
EA100/200-TNE	3WAY FLOATING BALL/3WAY TRUNNION BALL	106
EA100/200-UTE	FLOATING BALL	106
EA100/200-UTFE	FLOATING BALL	106
EA100/200-UTGE	FLOATING BALL	106
EA100/200-UTNE	3WAY FLOATING BALL	106
ED12/24-TE	FLOATING BALL/TRUNNION BALL	106
ED12/24-TNE	3WAY FLOATING BALL/3WAY TRUNNION BALL	106
ED12/24-UTE	FLOATING BALL	107
ED12/24-UTFE	FLOATING BALL/TRUNNION BALL	107
ED12/24-UTGE	FLOATING BALL	107
EXS100/200-10DJ	BUTTERFLY	108
EXS100/200-10DJE	BUTTERFLY	108
EXS100/200-10XJME	BUTTERFLY	108
C-TE	FLOATING BALL/TRUNNION BALL	109
C-TFE	FLOATING BALL/TRUNNION BALL	109
C-TGE	FLOATING BALL	109
C-TLE	FLOATING BALL/TRUNNION BALL	109
C-TNE	3WAY FLOATING BALL/3WAY TRUNNION BALL	109
C-TUE	FLOATING BALL	109
C-UTE	FLOATING BALL	109
C-UTGE	FLOATING BALL	109
C-UTNE	3WAY FLOATING BALL	109
CS-TE	FLOATING BALL	109
CS-TLE	FLOATING BALL	110
CS-TNE	3WAY FLOATING BALL	110
CS-TUE	FLOATING BALL	110
CS-UTE	FLOATING BALL	110
CS-UTGE	FLOATING BALL	110
CS-UTNE	3WAY FLOATING BALL	110
FA-10FCT	FLOATING BALL	110
FA-10FCTB	FLOATING BALL	110
FA-10FCTB2L	3WAY FLOATING BALL	110
FA-10SCTDZ	FLOATING BALL	110
FA-10UT	FLOATING BALL	111
FA-10UTB2L	3WAY FLOATING BALL	111
FA-10UTB4LAM	3WAY FLOATING BALL	111
FA-10UTBLN	FLOATING BALL	111
FA-10UTDZ	FLOATING BALL	111
FA-150SCTDZ	FLOATING BALL	111
FA-150UTDZ	FLOATING BALL	111
FA-20SCTDZ	FLOATING BALL	111
FA-20UTDZ	FLOATING BALL	111
FA-300SCTDZ	FLOATING BALL	111
FA-300UTDZ	FLOATING BALL	112
FA-300UTDZM	FLOATING BALL	112
FA-10XJME	BUTTERFLY	112
FA-10DJ	BUTTERFLY	112
FA-10DJE	BUTTERFLY	112
FAS-10FCT	FLOATING BALL	112
FAS-10FCTB	FLOATING BALL	112
FAS-10FCTB2L	3WAY FLOATING BALL	112
FAS-10SCTDZ	FLOATING BALL	112
FAS-10UT	FLOATING BALL	112
FAS-10UTB2L	3WAY FLOATING BALL	113
FAS-10UTB4LA	3WAY FLOATING BALL	113
FAS-10UTBLN	FLOATING BALL	113
FAS-10UTDZ	FLOATING BALL	113
FAS-150SCTDZ	FLOATING BALL	113
FAS-150UTDZ	FLOATING BALL	113
FAS-150UTDZM	FLOATING BALL	113
FAS-20SCTDZ	FLOATING BALL	113
FAS-20UTDZ	FLOATING BALL	113
FAS-300SCTDZ	FLOATING BALL	113
FAS-300UTDZ	FLOATING BALL	114
FAS-300UTDZM	FLOATING BALL	114
FAS-10XJME	BUTTERFLY	114
FAS-10DJ	BUTTERFLY	114
FAS-10DJE	BUTTERFLY	114
B-10FCT	FLOATING BALL	114
B-10FCTB	FLOATING BALL	114
B-10FCTB2L	3WAY FLOATING BALL	114
B-10STLBF	FLOATING BALL	114
B-10UT	FLOATING BALL	114
B-10UTDZ	FLOATING BALL	115
B-10UTDZM	FLOATING BALL	115
B-10SCTDZ	FLOATING BALL	115
B-10UTB2L	3WAY FLOATING BALL	115
B-10UTB4LA	3WAY FLOATING BALL	115
B-10UTBLN	FLOATING BALL	115
B-150SCTDZ	FLOATING BALL	115
B-150UTDZ	FLOATING BALL	115
B-150UTDZM	FLOATING BALL	115
B-20SCTDZ	FLOATING BALL	115
B-20UTDZ	FLOATING BALL	116
B-20UTDZM	FLOATING BALL	116
B-300SCTDZ	FLOATING BALL	116
B-300UTDZ	FLOATING BALL	116
B-300UTDZM	FLOATING BALL	116
B-10DJ	BUTTERFLY	116
B-10DJE	BUTTERFLY	116
BS-10FCT	FLOATING BALL	116
BS-10FCTB	FLOATING BALL	116
BS-10FCTB2L	3WAY FLOATING BALL	116
BS-10STLBF	FLOATING BALL	117
BS-10UT	FLOATING BALL	117
BS-10UTDZ	FLOATING BALL	117
BS-10UTDZM	FLOATING BALL	117
BS-10SCTDZ	FLOATING BALL	117
BS-10UTB2L	3WAY FLOATING BALL	117
BS-10UTB4LA	3WAY FLOATING BALL	117
BS-10UTBLN	FLOATING BALL	117
BS-10UVC	LAMBDA PORT	117
BS-150SCTDZ	FLOATING BALL	117
BS-150UTDZ	FLOATING BALL	118
BS-20SCTDZ	FLOATING BALL	118
BS-20UTDZ	FLOATING BALL	118
BS-20UTDZM	FLOATING BALL	118
BS-300SCTDZ	FLOATING BALL	118
BS-300UTDZ	FLOATING BALL	118
BS-300UTDZM	FLOATING BALL	118
BS-10DJ	BUTTERFLY	118
BS-10DJE	BUTTERFLY	118

KITZ

GENERAL CATALOG



BRONZE & BRASS

Presenting Design Features of KITZ Bronze/Brass Valves

Human Engineering in Handwheel Design

Computer-designed handwheels of all KITZ bronze/brass valves, the product of KITZ human engineering, are featured with an ideal combination of operational efficiency and high mechanical strength for reliability.

Asbestos-free Gland Packings

All KITZ bronze/brass gate and globe valves employ aramid fiber PTFE as the material of the asbestos-free gland packing, meeting the latest industrial demand to minimize pollution concerns. With its leak-free sealing performance and reduced valve operating torque, aramid fiber PTFE is considered a reliable substitution for conventional asbestos sheets for the service of water, oil, gas and saturated steam pressure of a maximum 300 psi within the temperature range of 300°C.

Pressure Rating

The pressure rating designation of KITZ valves follows the accepted practice of the present-day valve and pipe fitting industry. Each product is rated for W.O.G. (non-shock cold water, oil, and gas*) and saturated steam pressure service.

*Please refer to our website (www.kitz.co.jp) or contact KITZ for details.

Inspection and Testing

KITZ valves are manufactured under strict quality control throughout all stages of production, beginning with the inspection of the chemical composition and mechanical properties of materials. Extra care is given to inspection and testing at all machine shops and assembly plants, with the utilization of up-to-date precision equipment. All KITZ valves are subjected to strict pressure testing of the body and seat sealing to ensure a long service life and quality performance.

*The valves introduced in this catalog are not designed to handle toxic gases.
Use specially designed or certified valves for flammable gas service.

Pressure-Temperature Ratings of PN Series Valves

Maximum permissible working pressure (bar)

Service temperature (˚C)	Bronze & Brass valves		
	PN16	PN20	PN25
-10 to 66	16.0	20.0	25.0
100			
120	13.5	17.2	21.8
150	9.5	13.0	16.5
170	7.0	10.3	12.8
180	–	9.0	11.3
186	–	–	10.5
198	–	–	–
200	–	–	–

(Note) : Intermediate values may be obtained by linear interpolation.

Bronze/Brass Valve Solder Joints

Copper tubing is widely used with bronze/brass valves in steam and waterline applications in schools, hospitals, hotels, and private houses because of its excellent physical characteristics. It resists corrosion, meets sanitation require-ments, and is easy to install.

Copper Tubes: There are three types of copper tubing for complying with ASTM B88, as listed below.

Each type is provided with a different wall thickness to meet application requirements.

Type K	For use in steam, oil, and gas lines for underground installation and/or severe conditions.
Type L	For general cooling and heating systems and related water piping and ventilation systems.
Type M	For home air-conditioning and heating applications.

⚠CAUTION	Solder-jointed end valves should not be used in service where the temperature of the line fluid is higher than the softening point of the solder.

Soldering Leak-free Joints

Use a solder of 95-5 tin-antimony or 96-4 tin-silver, and an open-flame torch. Keep the torch temperature relatively low to ensure a firmly soldered joint. Because the solder melting point is around 500°F (260°C), jointed valves cannot be used for high-temperature service.

Solder P-T Rating

Solder	Max. temp. (°C)	Max. working pressure					
		size ¼^{B} to 1^{B}		size 1¼^{B} to 2^{B}		size 2¼^{B} to 4^{B}	
		MPa	psi	MPa	psi	MPa	psi
95-5 tin-antimony [H95 Sb-5A] **96-4 tin-silver [H96 Ag-3.5A]**	38	3.45	500	2.76	400	2.07	300
	66	2.76	400	2.41	350	1.90	275
	93	2.07	300	1.72	250	1.38	200
	121	1.38	200	1.21	175	1.03	150

KITZ Bronze and Brass Materials to JIS Standards

JIS H5120-2006 (Copper & Copper Alloy Castings)

	Designation	Chemical composition (%)										Mechanical properties	
		Cu	Sn	Zn	Pb	Ni	Fe	P	Sb	Al	Si		
Cast bronze Class 6	CAC406 (BC6)	83.0-87.0	4.0-6.0	4.0-6.0	4.0-6.0	1.0 Max.	0.3 Max.	0.05 Max.	0.2 Max.	0.01 Max.	0.01 Max.	Tensile strength 195 Min. (N/mm^2)	Elongation (%) 15 Min.

JIS H3250-2006 (Copper & Copper Alloy Rods and Bars)

	Designation		Chemical composition (%)				Mechanical properties	
	Extruded	Drawn	Cu	Pb	Fe + Sn	Zn		
Forged brass Alloy No.3771	C3771BE	C3771BD	57.0-61.0	1.0-2.5	1.0 Max.	Remainder	Tensile strength 315 Min. (N/mm^2)	Elongation (%) 15 Min.

JIS H3250-2006 (Copper & Copper Alloy Rods and Bars)

	Designation		Chemical composition (%)					Mechanical properties	
	Extruded	Drawn	Cu	Pb	Fe	Fe + Sn	Zn		
Free-cutting brass Alloy No.3604	C3604BE	C3604BD	57.0-61.0	1.8-3.7	0.5 Max.	1.0 Max.	Remainder	Tensile strength 335 Min. (N/mm^2)	Elongation (%) –

KITZ Bronze and Brass Materials to ASTM Standards

ASTM B62-2002

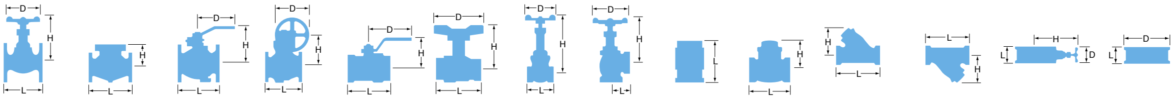
Chemical composition (%)											Mechanical properties		
Copper	Tin	Lead	Zinc	Nickel & Cobalt	Iron	Sulfer	Phosphorus	Antimony	Aluminum	Silicon	Minimum		
84.0-86.0	4.0-6.0	4.0-6.0	4.0-6.0	1.0 Max.	0.30 Max.	0.08 Max.	0.05 Max.	0.25 Max.	0.005 Max.	0.005 Max.	Tensile strength 30 ksi	Yield strength 14 ksi	Elongation in 2 in. 20%

ASTM B584 C84400-2004

Chemical composition (%)											Mechanical properties		
Copper	Tin	Lead	Zinc	Nickel & Cobalt	Iron	Sulfer	Phosphorus	Antimony	Aluminum	Silicon	Minimum		
78.0-82.0	2.3-3.5	6.0-8.0	7.0-10.0	1.0 Max.	0.40 Max.	0.08 Max.	0.02 Max.	0.25 Max.	0.005 Max.	0.005 Max.	Tensile strength 29 ksi	Yield strength 13 ksi	Elongation in 2 in. 18%

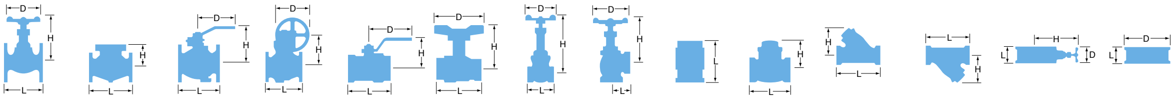
ASTM B283 C37700-2004

Chemical composition (%)				Mechanical properties		
Copper	Lead	Iron	Zinc	Minimum		
58.0-61.0	1.5-2.5	0.30 Max.	Remainder	Tensile strength 50 ksi	Yield strength 18 ksi	Elongation in 4x thickness 25%

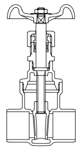
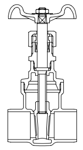


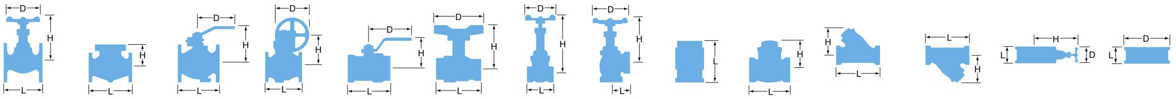
TYPE			GATE			GATE			GATE			GATE			GATE		
Bronze&Brass																	
FIG			S			H			E			FH			FR		
PRESSURE			Class 125			Class 125			Class 150			Class 125			Class 125		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	35	70	50	–	–	–
	⅜	10	38	75	50	42	74	50	43	86	50	38	73	50	38	73	50
	½	15	42	75	50	45	80	50	48	96	55	42	73	50	42	73	50
	¾	20	47	86	55	50	90	55	53	111	60	47	87	55	47	87	55
	1	25	50	97	60	57	105	60	62	122	70	50	97	60	50	97	60
	1¼	32	60	117	70	61	118	70	69	141	80	60	118	70	60	118	70
	1½	40	63	126	80	67	135	80	75	164	90	63	126	80	63	126	80
	2	50	72	154	90	74	159	90	86	197	100	72	154	90	72	154	90
	2½	65	80	167	100	90	202	115	105	225	115	82	187	100	–	–	–
	3	80	90	200	115	100	223	135	116	261	135	92	205	115	–	–	–
	4	100	–	–	–	121	280	155	–	–	–	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Forged Brass			Forged Brass		
BONNET			Forged Brass			Cast Bronze			Forged Brass			Forged Brass			Forged Brass		
STEM			Special Brass			Special Brass			Special Brass			Special Brass			Special Brass		
DISC			Forged Brass			Cast Bronze			Cast Bronze			Forged Brass			Forged Brass		
			Non-rising Stem			Non-rising Stem			Non-rising Stem			Non-rising Stem			Non-rising Stem		

TYPE			GATE			GATE			GATE			GATE			GATE		
Bronze&Brass																	
FIG			M			L			LB			125M			150S		
PRESSURE			5K			10K			10K			Class 125			Class 150		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			JIS B2011			BS21 (JIS B0203)			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	½	15	50	126	60	55	126	60	–	–	–	51	129	55	42	75	50
	¾	20	60	145	60	65	153	70	90	153	70	56	155	60	47	86	55
	1	25	65	170	70	70	178	80	100	178	80	66	180	70	50	97	60
	1¼	32	75	213	90	80	223	90	110	223	90	68	216	80	60	117	70
	1½	40	85	244	100	90	254	100	125	254	100	74	257	90	63	126	80
	2	50	95	294	115	100	302	115	140	302	115	84	296	100	72	154	90
	2½	65	115	366	135	120	376	155	170	376	155	–	–	–	80	167	100
	3	80	130	428	155	140	436	180	190	282	180	–	–	–	90	200	115
	4	100	–	–	–	–	–	–	220	327	225	–	–	–	–	–	–
BODY			Bronze			Bronze			Bronze			Cast Bronze			Cast Bronze		
BONNET			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
STEM			Special Brass			Special Brass			Special Brass			Cast Bronze			Cast Bronze		
DISC			Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Copper-Nickel Alloy		
															Non-rising Stem		



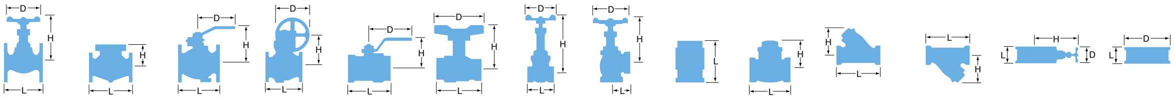
TYPE			GATE			GATE			GATE			GATE			GATE		
Bronze&Brass																	
FIG			150L			300LU			CH			CFS			CFH		
PRESSURE			Class 150			Class 300			Class 125			Class 125			Class 125		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			ASME B16.18			Solder Joint			ASME B16.18		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	–	–	–	39	74	50	–	–	–	37	77	50
	½	15	51	137	55	51	149	70	46	80	50	45	75	50	45	77	50
	¾	20	56	157	70	56	173	80	61	90	55	60	86	55	60	87	55
	1	25	66	180	70	66	194	80	72	105	60	70	97	60	70	97	60
	1¼	32	68	216	80	74	228	100	78	118	70	77	117	70	77	118	70
	1½	40	74	257	90	84	274	115	87	135	80	86	126	80	86	126	80
	2	50	84	296	100	98	313	135	102	159	90	102	154	90	104	154	90
	2½	65	–	–	–	–	–	–	115	202	115	–	–	–	115	187	100
	3	80	–	–	–	–	–	–	130	223	135	–	–	–	127	205	115
	4	100	–	–	–	–	–	–	173	280	155	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Forged Brass			Forged Brass		
BONNET			Cast Bronze			Cast Bronze			Cast Bronze			Forged Brass			Forged Brass		
STEM			Cast Bronze			Cast Bronze			Special Brass			Special Brass			Special Brass		
DISC			Cast Bronze			Copper–Nickel Alloy			Cast Bronze			Forged Brass			Forged Brass		
									Solder end joint Non-rising Stem			Solder end joint Non-rising Stem			Solder end joint Non-rising Stem		

TYPE			GATE			GATE			GATE			GATE			GATE		
Bronze&Brass																	
FIG			CM			CL			C125E			C125M			C150E		
PRESSURE			5K			10K			Class 125			Class 125			Class 150		
END CONNECTION			JIS B2011			JIS B2011			ASME B16.18			ASME B16.18			ASME B16.18		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	–	–	–	39	86	50	–	–	–	–	–	–
	½	15	50	126	60	50	126	60	46	93	55	49	129	55	46	98	55
	¾	20	65	145	60	65	153	70	60	110	70	64	155	60	60	114	70
	1	25	75	170	70	75	178	80	71	126	70	76	180	70	71	126	70
	1¼	32	80	213	90	82	223	90	79	145	80	82	216	80	79	145	80
	1½	40	88	244	100	92	254	100	88	176	90	86	257	90	88	176	90
	2	50	108	294	115	110	302	115	108	201	100	109	296	100	108	201	100
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	80	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
STEM			Special Brass			Special Brass			Cast Bronze			Cast Bronze			Cast Bronze		
DISC			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
			Solder end joint			Solder end joint			Solder end joint Non-rising Stem			Solder end joint			Solder end joint Non-rising Stem		



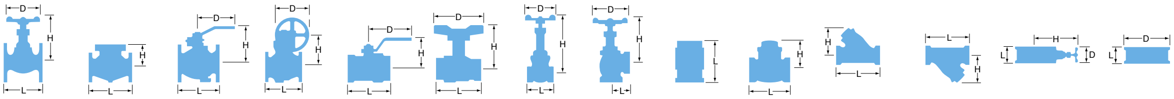
TYPE			GATE			GATE			GATE			GATE			GATE		
Bronze&Brass																	
FIG			C150L			C150LU			AKH			AKFS			AKFH		
PRESSURE			Class 150			Class 150			Class 125			–			Class 125		
END CONNECTION			ASME B16.18			ASME B16.18			NPT			ASME B1.20.1			ASME B1.20.1		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	35	70	50
	⅜	10	–	–	–	–	–	–	42	74	50	38	75	50	38	73	50
	½	15	49	137	55	49	137	55	45	80	50	42	75	50	42	73	50
	¾	20	64	157	70	64	157	70	50	90	55	47	86	55	47	87	55
	1	25	76	180	70	76	180	70	57	105	60	50	97	60	50	97	60
	1¼	32	82	216	80	82	216	80	61	118	70	60	117	70	60	118	70
	1½	40	86	257	90	86	257	90	67	135	80	63	126	80	63	126	80
	2	50	109	296	100	109	296	100	74	159	90	72	154	90	72	154	90
	2½	65	–	–	–	–	–	–	90	202	115	80	167	100	82	187	100
	3	80	–	–	–	–	–	–	100	223	135	90	200	115	92	205	115
	4	100	–	–	–	–	–	–	121	280	155	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Forged Brass			Forged Brass		
BONNET			Cast Bronze			Cast Bronze			Cast Bronze			Forged Brass			Forged Brass		
STEM			Cast Bronze			Cast Bronze			Special Brass			Special Brass			Special Brass		
DISC			Cast Bronze			Cast Bronze			Cast Bronze			Forged Brass			Forged Brass		
			Solder end joint			Solder end joint			Non-rising Stem			Non-rising Stem			Non-rising Stem		

TYPE			GATE			GATE			GATE			GATE			GATE		
Bronze&Brass																	
FIG			AK125E			AK125M			AK150E			AK150L			AK150LU		
PRESSURE			Class 125			Class 125			Class 150			Class 150			Class 150		
END CONNECTION			ASME B1.20.1			ASME B1.20.1			BS21 (JIS B0203)			ASME B1.20.1			ASME B1.20.1		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	45	108	50
	⅜	10	43	86	50	–	–	–	43	86	50	–	–	–	46	108	50
	½	15	49	93	55	51	129	55	49	98	55	51	137	55	51	137	55
	¾	20	53	110	60	56	155	60	53	114	70	56	157	70	56	157	70
	1	25	61	126	70	66	180	70	61	126	70	66	180	70	66	180	70
	1¼	32	64	145	80	68	216	80	68	145	80	68	216	80	68	216	80
	1½	40	68	170	90	74	257	90	74	176	90	74	257	90	74	257	90
	2	50	74	189	100	84	296	100	84	201	100	84	296	100	84	297	100
	2½	65	–	–	–	115	371	135	–	–	–	120	385	155	–	–	–
	3	80	–	–	–	130	432	155	–	–	–	140	432	155	–	–	–
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
STEM			Special Brass			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
DISC			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
			Non-rising Stem						Non-rising Stem								



TYPE			GATE			GATE			GATE			GATE			GATE		
Bronze&Brass																	
FIG			AK300LU			AS-FH			PN16S			PN16FH			PN20E		
PRESSURE			Class 300			Class 125			PN16			PN16			PN20		
END CONNECTION			ASME B1.20.1			AS 1722.1			BS21 (JIS B0203)			ASME B1.20.1			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	-	-	-	-	-	-	-	-	-	35	70	50	-	-	-
	⅜	10	46	125	60	-	-	-	-	-	-	38	73	50	-	-	-
	½	15	51	149	70	55	74	55	42	75	50	42	73	50	48	96	55
	¾	20	56	173	80	60	86	55	47	86	55	47	87	55	53	111	60
	1	25	66	194	80	68	94	60	50	97	60	50	97	60	62	122	70
	1¼	32	74	228	100	78	116	70	60	117	70	60	118	70	69	141	80
	1½	40	84	274	115	81	128	80	63	126	80	63	126	80	75	164	90
	2	50	98	313	135	94	158	90	72	154	90	72	154	90	86	197	100
	2½	65	-	-	-	-	-	-	-	-	-	82	187	100	-	-	-
	3	80	-	-	-	-	-	-	-	-	-	92	205	115	-	-	-
	4	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BODY			Cast Bronze			Dezincification Resistance Brass			Cast Bronze			Forged Brass			Cast Bronze		
BONNET			Cast Bronze			Dezincification Resistance Brass			Forged Brass			Forged Brass			Forged Brass		
STEM			Cast Bronze			Dezincification Resistance Brass			Special Brass			Special Brass			Special Brass		
DISC			Copper-Nickel Alloy			Dezincification Resistance Brass			Forged Brass			Forged Brass			Cast Bronze		
						Non-rising Stem			Non-rising Stem			Non-rising Stem			Non-rising Stem		

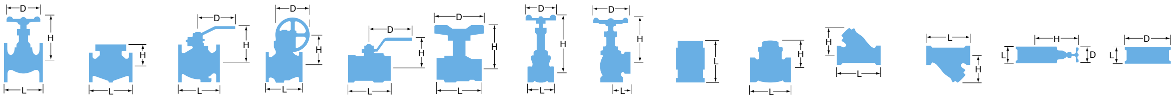
TYPE			GATE			GLOBE			GLOBE			GLOBE			GLOBE		
Bronze&Brass																	
FIG			PN25H			A			Q			QA			G		
PRESSURE			PN25			Class 100			Class 100			Class 100			Class 125		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21			BS21 (JIS B0203)			BS21		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	40	66	50	–	–	–	–	–	–	47	68	50
	⅜	10	–	–	–	42	67	50	–	–	–	–	–	–	53	88	55
	½	15	45	80	50	48	69	55	44	70	50	44	70	50	57	100	60
	¾	20	50	90	55	53	80	60	50	73	55	50	73	55	66	110	70
	1	25	57	105	60	63	94	70	63	86	60	63	86	60	76	120	80
	1¼	32	61	118	70	73	104	80	–	–	–	73	108	80	88	140	90
	1½	40	67	135	80	81	127	90	–	–	–	81	132	90	100	156	100
	2	50	74	159	90	94	147	100	–	–	–	94	150	100	120	185	115
	2½	65	–	–	–	115	179	115	–	–	–	–	–	–	147	210	135
	3	80	–	–	–	131	200	135	–	–	–	–	–	–	162	229	155
	4	100	–	–	–	171	250	180	–	–	–	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Cast Bronze			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
STEM			Special Brass			Special Brass			Special Brass			Special Brass			Special Brass		
DISC			Special Brass			Cast Bronze			Uletan Rubber			PTFE			G/F PTFE		
			Non-rising Stem						Soft Seated disc			Soft Seated disc			Soft Seated disc		



Bronze & Brass
Cast Iron
Ductile Iron
Stainless Steel
Carbon Steel
Butterfly Valve
Ball Valve
Ball Valve Seat
Actuated Valve

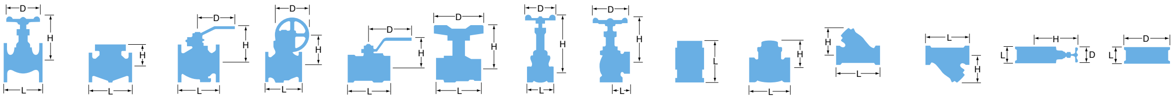
TYPE			GLOBE			GLOBE			GLOBE			GLOBE			GLOBE		
Bronze&Brass																	
FIG			C			CA			B			BH			D		
PRESSURE			Class 150			Class 150			Class 150			Class 150			Class 150		
END CONNECTION			BS21 (JIS B0203)			BS21			JIS B2240			JIS B2240			BS21		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	44	66	50	21	66	50	-	-	-	-	-	-	-	-	-
	⅜	10	44	68	50	24	68	50	-	-	-	-	-	-	-	-	-
	½	15	53	79	60	28	79	60	83	79	60	83	79	60	64	113	60
	¾	20	65	93	70	34	93	70	88	94	70	88	94	70	78	138	90
	1	25	77	104	80	40	104	80	100	105	80	100	105	80	90	156	100
	1¼	32	85	127	90	47	127	90	113	127	90	113	127	90	105	184	115
	1½	40	100	145	100	52	145	100	120	145	100	120	145	100	120	187	115
	2	50	119	174	115	61	174	115	145	174	115	145	174	115	145	212	135
	2½	65	139	199	135	74	199	135	165	198	135	165	198	135	-	-	-
	3	80	158	215	155	85	215	155	177	215	155	177	215	155	-	-	-
	4	100	-	-	-	-	-	-	220	250	180	220	250	180	-	-	-
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Forged Brass			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
STEM			Special Brass			Special Brass			Special Brass			Special Brass			Special Brass		
DISC			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			G/F PTFE		
									Franged ends undrilled						Soft Seated disc		

TYPE			GLOBE			GLOBE			GLOBE			GLOBE			GLOBE		
Bronze&Brass																	
FIG			DB			DBH			K			J			JB		
PRESSURE			Class 150			Class 150			5K			10K			10K		
END CONNECTION			JIS B2240			JIS B2240			BS21 (JIS B0203)			BS21 (JIS B0203)			JIS B2011		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	50	86	50	–	–	–
	⅜	10	–	–	–	–	–	–	50	87	55	55	87	55	–	–	–
	½	15	82	113	60	82	113	60	60	90	60	65	93	60	85	93	60
	¾	20	95	138	90	95	138	90	70	102	70	80	122	80	95	122	80
	1	25	108	156	100	108	156	100	80	112	80	90	135	90	110	135	90
	1¼	32	120	184	115	120	184	115	100	137	90	105	157	100	130	157	100
	1½	40	140	187	115	140	187	115	110	142	100	120	171	115	150	171	115
	2	50	165	212	135	165	212	135	135	173	115	140	196	135	180	196	135
	2½	65	190	244	155	190	244	155	160	203	135	180	232	155	210	232	155
	3	80	220	281	180	220	281	180	190	233	155	200	268	180	240	268	180
	4	100	270	321	225	270	321	225	–	–	–	–	–	–	280	323	225
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Forged Brass			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
STEM			Special Brass			Special Brass			Special Brass			Special Brass			Special Brass		
DISC			G/F PTFE			G/F PTFE			Cast Bronze			Cast Bronze			Cast Bronze		
			Soft Seated disc Franged ends undrilled			Soft Seated disc											



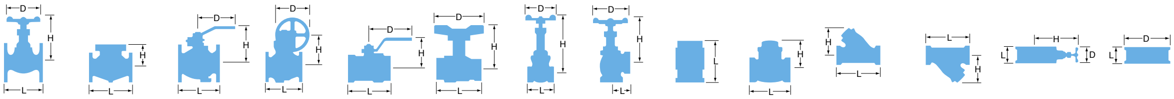
TYPE			GLOBE			GLOBE			GLOBE			GLOBE			GLOBE		
Bronze&Brass																	
FIG			150D			300D			C125C			C150D			AKA		
PRESSURE			Class 150			Class 300			Class 125			Class 150			Class 100		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			ASME B16.18			ASME B16.18			ASME B1.20.1		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	53	109	60	53	113	60	–	–	–	58	109	60	40	66	50
	⅜	10	55	109	60	55	113	60	–	–	–	61	109	60	42	67	50
	½	15	64	116	70	64	126	80	64	76	60	72	116	70	48	69	55
	¾	20	78	136	90	78	139	90	84	98	70	95	136	90	53	80	60
	1	25	90	149	100	90	157	100	100	108	80	112	149	100	63	94	70
	1¼	32	105	173	115	105	187	115	115	137	90	126	173	115	73	104	80
	1½	40	120	182	115	120	192	135	130	160	100	145	182	115	81	127	90
	2	50	145	209	135	145	221	155	155	180	115	180	209	135	94	147	100
	2½	65	–	–	–	–	–	–	192	202	135	205	247	155	115	179	115
	3	80	–	–	–	–	–	–	232	246	155	244	275	180	131	200	135
	4	100	–	–	–	–	–	–	–	–	–	312	298	225	171	250	180
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Cast Bronze			Cast Bronze			Forged Brass			Cast Bronze			Forged Brass		
STEM			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Special Brass		
DISC			G/F PTFE			G/F PTFE			Cast Bronze			G/F PTFE			Cast Bronze		
			Soft Seated disc			Soft Seated disc			Solder end joint			Soft Seated disc Solder end joint					

TYPE			GLOBE			GLOBE			GLOBE			GLOBE			GLOBE		
Bronze&Brass																	
FIG			AKG			AKC			AKCA			AK125C			AK150D		
PRESSURE			Class 125			Class 150			Class 150			Class 125			Class 150		
END CONNECTION			ASME B1.20.1			ASME B1.20.1			ASME B1.20.1			ASME B1.20.1			ASME B1.20.1		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	47	68	50	44	66	50	21	66	50	–	–	–	53	109	60
	⅜	10	53	88	55	44	68	50	24	68	50	–	–	–	55	109	60
	½	15	57	100	60	53	79	60	28	79	60	53	76	60	64	116	70
	¾	20	66	110	70	65	93	70	34	93	70	65	98	70	78	136	90
	1	25	76	120	80	77	104	80	40	104	80	77	108	80	90	149	100
	1¼	32	88	140	90	85	127	90	47	127	90	85	137	90	105	173	115
	1½	40	100	156	100	100	145	100	52	145	100	100	160	100	120	182	115
	2	50	120	185	115	119	174	115	61	174	115	119	180	115	145	209	135
	2½	65	147	210	135	139	199	135	74	199	135	150	202	135	170	247	155
	3	80	162	229	155	158	215	155	85	215	155	178	246	155	200	275	180
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	245	298	225
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Forged Brass			Forged Brass			Forged Brass			Forged Brass			Cast Bronze		
STEM			Special Brass			Special Brass			Special Brass			Cast Bronze			Cast Bronze		
DISC			G/F PTFE			Cast Bronze			Cast Bronze			Cast Bronze			G/F PTFE		
			Soft Seated disc												Soft Seated disc		



TYPE			GLOBE			GLOBE			GLOBE			GLOBE			GLOBE		
Bronze&Brass																	
FIG			AK300D			AK300J			PN16A			PN16G			PN20D		
PRESSURE			Class 300			Class 300			PN16			PN16			PN20		
END CONNECTION			ASME B1.20.1			ASME B1.20.1			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	53	113	60	53	113	60	–	–	–	–	–	–	–	–	–
	⅜	10	55	113	60	55	113	60	–	–	–	–	–	–	–	–	–
	½	15	64	126	80	64	126	80	48	69	55	57	100	60	64	113	60
	¾	20	78	139	90	78	139	90	53	80	60	66	110	70	78	138	90
	1	25	90	157	100	90	159	100	63	94	70	76	120	80	90	156	100
	1¼	32	105	187	115	105	187	115	73	104	80	88	140	90	105	184	115
	1½	40	120	192	135	120	195	135	81	127	90	100	156	100	120	187	115
	2	50	145	221	155	145	224	155	94	147	100	120	185	115	145	212	135
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	80	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Cast Bronze			Cast Bronze			Forged Brass			Forged Brass			Forged Brass		
STEM			Cast Bronze			Cast Bronze			Special Brass			Special Brass			Special Brass		
DISC			G/F PTFE			Cast Bronze			Cast Bronze			G/F PTFE			G/F PTFE		
			Soft Seated disc									Soft Seated disc			Soft Seated disc		

TYPE			GLOBE			LIFT CHECK			SWING CHECK			SWING CHECK			SWING CHECK		
Bronze&Brass																	
FIG			PN25C			F			R			O			OB		
PRESSURE			PN25			Class 150			Class 125			10K			10K		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			JIS B0203			JIS B2240		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	44	26	23	53	39	23	55	38.5	24	–	–	–
	½	15	53	79	60	53	28	28	60	39	28	65	43	29	85	43	95
	¾	20	65	93	70	65	34	35	70	45	35	80	51.5	35	95	52	100
	1	25	77	104	80	77	42	43	80	52	43	90	58.5	44	110	59	125
	1¼	32	85	127	90	85	50	52	92	62	52	105	67	54	130	67	135
	1½	40	100	145	100	100	56	59	102	67	59	120	73.5	60	150	74	140
	2	50	119	174	115	119	67	72	122	79	72	140	86	74	180	86	155
	2½	65	–	–	–	139	79	88	150	91	87	180	97	90	210	97	175
	3	80	–	–	–	158	91	105	165	102	102	200	108	103	240	108	185
	4	100	–	–	–	–	–	–	195	119	127	–	–	–	280	127	210
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Forged Brass			–			–			–			–		
CAP			–			Brass			Brass			Brass			Brass		
STEM			Special Brass			–			–			–			–		
HINGE PIN			–			–			Brass Rod			Brass Rod			Brass Rod		
DISC			Cast Bronze			Cast Bronze			Forged Brass			Cast Bronze			Cast Bronze		

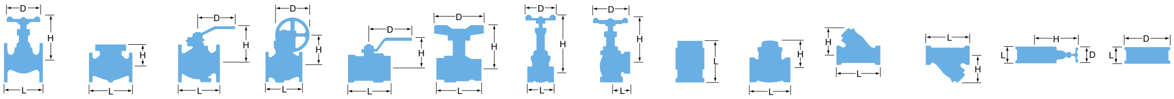


TYPE			SWING CHECK			WAFER CHECK			LIFT CHECK			LIFT CHECK			FOOT CHECK		
Bronze&Brass																	
FIG			YR			10BWZ			RF			VF			FT		
PRESSURE			Class 125			10K			10K			–			–		
END CONNECTION			BS21 (JIS B0203)			Wafer Type			BS21 (JIS B0203)			BS21			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	54	40	23	–	–	–	–	–	–	–	–	–	–	–	–
	½	15	56	40	28	–	–	–	53	–	28	37	–	24	–	–	–
	¾	20	70	49	34	–	–	–	59	–	34	44	–	30	48	–	41
	1	25	80	58	41	–	–	–	67	–	41	51	–	36	58	–	52
	1¼	32	95	71	50	–	–	–	78	–	50	62	–	45	62	–	62
	1½	40	110	80	57	54	132	55	84	–	57	69	–	52	70	–	70
	2	50	128	95	70	56	139	70	98	–	70	82	–	63	80	–	83
	2½	65	–	–	–	56	146	70	–	–	–	–	–	–	90	–	102
	3	80	–	–	–	59	152	70	–	–	–	–	–	–	100	–	116
	4	100	–	–	–	66	165	70	–	–	–	–	–	–	–	–	–
	5	125	–	–	–	72	183	70	–	–	–	–	–	–	–	–	–
	6	150	–	–	–	78	208	80	–	–	–	–	–	–	–	–	–
	8	200	–	–	–	96	237	80	–	–	–	–	–	–	–	–	–
	10	250	–	–	–	109	289	90	–	–	–	–	–	–	–	–	–
	12	300	–	–	–	145	316	90	–	–	–	–	–	–	–	–	–
BODY			Bronze			Cast Bronze+NBR			Cast Bronze			Cast Bronze			Cast Bronze		
CAP			Brass			–			Bronze			Brass / Bronze			Bronze		
HINGE PIN			Copper			SUS304			–			–			–		
DISC			Bronze			Cast Bronze			NBR			Special Brass			NBR		
									Soft Seated disc						Soft Seated disc		

TYPE			FOOT CHECK			SWING CHECK			SWING CHECK			SWING CHECK			SWING CHECK		
Bronze&Brass																	
FIG			FTS			150YR			300YR			CR			CYR		
PRESSURE			–			Class 150			Class 300			Class 125			Class 125		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21			JIS B2011 / ASME B16.18(21/2 & 3)			ASME B16.18		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	54	39	23	–	–	–	56	39	–	–	–	–
	½	15	–	–	–	60	39	27	60	42	29	67	39	–	67	38	–
	¾	20	25	–	31	72	49	33	72	51	35	89	45	–	86	47	–
	1	25	29	–	38	84	58	41	84	61	44	104	52	–	105	56	–
	1¼	32	32	–	47	99	70	51	99	74	54	120	62	–	121	69	–
	1½	40	35	–	53	113	79	58	113	83	60	134	67	–	137	77	–
	2	50	43	–	66	131	95	71	131	98	74	164	79	–	170	92	–
	2½	65	50	–	81	–	–	–	–	–	–	193	91	–	194	111	–
	3	80	51	–	94	–	–	–	–	–	–	213	102	–	222	127	–
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
CAP			–			Brass			Brass			Brass			Brass		
HINGE PIN			–			Copper			Copper			Copper			Copper		
DISC			NBR			Cast Bronze			Cast Bronze			Forged Brass			Cast Bronze		
			Soft Seated disc									Solder end joint			Solder end joint		

TYPE			SWING CHECK			LIFT CHECK			SWING CHECK			SWING CHECK			SWING CHECK		
Bronze&Brass																	
FIG			C150YR			CAF			AKYR			AK150YR			AK300YR		
PRESSURE			Class 150			Class 150			Class 125			Class 150			Class 300		
END CONNECTION			ASME B16.18			ASME B16.18			ASME B1.20.1			ASME B1.20.1			ASME B1.20.1		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	61	39	–	–	–	–	–	–	–	54	39	–	–	–	–
	½	15	67	39	–	61	–	–	56	40	–	60	39	–	60	42	–
	¾	20	86	49	–	76	–	–	70	49	–	72	49	–	72	51	–
	1	25	105	58	–	89	–	–	80	58	–	84	58	–	84	61	–
	1¼	32	121	70	–	97	–	–	95	71	–	99	70	–	99	74	–
	1½	40	137	79	–	110	–	–	110	80	–	113	79	–	113	83	–
	2	50	170	95	–	132	–	–	128	95	–	131	95	–	131	98	–
	2½	65	194	114	–	–	–	–	156	114	–	162	114	–	–	–	–
	3	80	222	132	–	–	–	–	184	131	–	186	132	–	–	–	–
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
CAP			Brass			Cast Bronze			Brass			Brass			Brass		
HINGE PIN			Copper			–			Copper			Copper			Copper		
DISC			Cast Bronze			–			Cast Bronze			Cast Bronze			Cast Bronze		
SEAT			–			FKM			–			–			–		
			Solder end joint			Solder end joint											

TYPE			LIFT CHECK			SWING CHECK			SWING CHECK			LIFT CHECK			Y TYPE STRAINER		
Bronze&Brass																	
FIG			AKAF			PN16R			PN16YR			PN25F			Y		
PRESSURE			Class 150			PN16			PN16			PN25			10K		
END CONNECTION			ASME B1.20.1			BS21 (JIS B0203)			ASME B1.20.1			BS21 (JIS B0203)			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	–	–	–	–	–	–	–	–	–	70	44	–
	½	15	53	26	–	60	39	–	56	40	28	53	28	28	80	49	–
	¾	20	59	32	–	70	45	–	70	49	35	65	34	35	100	57	–
	1	25	67	39	–	80	52	–	80	58	43	77	42	43	115	70	–
	1¼	32	78	48	–	92	62	–	95	71	52	85	50	52	135	82	–
	1½	40	84	54	–	102	67	–	110	80	59	100	56	59	160	98	–
	2	50	98	67	–	122	79	–	128	95	72	119	67	72	195	121	–
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–	230	148	–
	3	80	–	–	–	–	–	–	–	–	–	–	–	–	240	180	–
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
CAP			–			Brass			Brass			Brass			Brass		
HINGE PIN			–			Forged Brass			Copper			–			–		
DISC			–			Forged Brass			Cast Bronze			Cast Bronze			–		
SEAT			FKM			–			–			–			–		
SCREEN			–			–			–			–			SUS304		



TYPE			Y TYPE STRAINER			Y TYPE STRAINER			Y TYPE STRAINER		
Bronze&Brass											
FIG			CY			AKY			PN25Y		
PRESSURE			10K			Class 150			PN25		
END CONNECTION			Solder Joint			ASME B1.20.1			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	70	44	–	–	–	–
	½	15	80	49	–	80	49	–	80	49	–
	¾	20	105	57	–	100	57	–	100	57	–
	1	25	125	70	–	115	70	–	115	70	–
	1¼	32	145	82	–	135	82	–	135	82	–
	1½	40	170	98	–	160	98	–	160	98	–
	2	50	210	121	–	195	121	–	195	121	–
	2½	65	250	148	–	–	–	–	–	–	–
	3	80	280	180	–	–	–	–	–	–	–
	4	100	–	–	–	–	–	–	–	–	–
BODY			Bronze			Cast Bronze			Cast Bronze		
CAP			Brass			Brass			Brass		
STEM			–			–			–		
DISC			–			–			–		
SCREEN			SUS304			SUS304			SUS304		
			Solder end joint								

KITZ
GENERAL CATALOG

CAST IRON

Cast Iron

Basic Design Specifications

Class	JIS5K/10K	Class 100/125
Face to face dimension	JIS B2031	ASME B16.10
End flange dimension		ASME B16.1
Wall thickness		KITZ Std.

*Please refer to our website (www.kitz.co.jp) or contact KITZ for details.

Material Specifications for Grey Iron Casting

JIS materials / Mechanical properties		FC200	FC250	FC300
Tensile strength (N/mm²)	**min.**	200	250	300
Brinell hardness (HB) max.		235	248	269

ASTM A126 Class B	Tensile strength (min)	31ksi
Transverse test requirement	Face at center, min.	3,300 lb
	Deflection at center, min.	0.12 in

ASME Valves Pressure-Temperature Ratings

Maximum Allowable Non-Shock Pressure

<table>
<tr><th colspan="3" rowspan="2">Service temperature</th><th colspan="4">Class 125</th></tr>
<tr><th colspan="2">Size 2^B to 12^B</th><th colspan="2">Size 14^B to 24^B</th></tr>
<tr><th>°F</th><th colspan="2">°C</th><th>Psi.</th><th>MPa</th><th>Psi.</th><th>MPa</th></tr>
<tr><td>-20 to 150</td><td colspan="2">-29 to 66</td><td>200</td><td>1.37</td><td>150</td><td>1.03</td></tr>
<tr><td>200</td><td colspan="2">93</td><td>190</td><td>1.30</td><td>135</td><td>0.93</td></tr>
<tr><td>225</td><td colspan="2">107</td><td>180</td><td>1.24</td><td>130</td><td>0.89</td></tr>
<tr><td>250</td><td colspan="2">121</td><td>175</td><td>1.20</td><td>125</td><td>0.86</td></tr>
<tr><td>275</td><td colspan="2">135</td><td>170</td><td>1.17</td><td>120</td><td>0.82</td></tr>
<tr><td>300</td><td colspan="2">149</td><td>165</td><td>1.13</td><td>110</td><td>0.75</td></tr>
<tr><td>325</td><td colspan="2">163</td><td>155</td><td>1.06</td><td>105</td><td>0.72</td></tr>
<tr><td>350</td><td colspan="2">177</td><td>150</td><td>1.03</td><td>100</td><td>0.69</td></tr>
<tr><td>375</td><td colspan="2">191</td><td>145</td><td>1.00</td><td></td><td></td></tr>
<tr><td>400</td><td colspan="2">204</td><td>140</td><td>0.96</td><td></td><td></td></tr>
<tr><td>425</td><td colspan="2">218</td><td>130</td><td>0.89</td><td></td><td></td></tr>
<tr><td>450</td><td colspan="2">232</td><td>125</td><td>0.86</td><td></td><td></td></tr>
<tr><td colspan="3">Saturated steam</td><td>125</td><td>0.86</td><td>100</td><td>0.69</td></tr>
<tr><td rowspan="3">Test pressure</td><td rowspan="2">Hydro-static</td><td>Shell</td><td>350</td><td>2.41</td><td>265</td><td>1.83</td></tr>
<tr><td>Seat</td><td>220</td><td>1.51</td><td>165</td><td>1.13</td></tr>
<tr><td>Air</td><td>Seat</td><td>80</td><td>0.59</td><td>80</td><td>0.59</td></tr>
</table>

Remarks:

(1) All pressures are given in pounds per square inch gage (PSIG).

(2) Pressure-temperature ratings extracted from MSS SP-70, 71, 85 apply to iron flanged end valves designed for primary working pressures in Class 125.

PN Series Valves Pressure-Temperature Ratings

Maximum permissible working pressure (bar)

Service temperature (°C)	Cast ironvalves PN16
-10 to 66	16
100	
120	
150	14.4
170	13.7
180	13.4
186	13.2
198	12.9
200	12.8

(Note) : Intermediate values may be obtained by linear interpolation.

Simplified Material Indication (as referred to in each page)

Bronze trim : Iron body with bronze trim
13 Cr. trim : Iron body with 13 Cr. trim
18-8 trim : Iron body with 18 Cr.-8 Ni trim

Certification by JIS Mark

The Industrial Standardization Law of Japan provides an effective measure to promote the introduction of a high-level quality assurance system of manufacture and processing. KITZ valves that are identified with the JIS Mark are officially certified as being produced under strict quality assurance procedures and practices to satisfy the designated quality level stably and constantly.

Valve Position Indicators

A valve position indicator is provided on gate valves with an inside screw design as illustrated here. Opening or closing the valves does not move the vertical position of the handwheel. Instead, the position indicator visually indicates three valve operating positions: fully opened, fully closed, or half opened.

Trim Materials

KITZ cast iron valves are provided with any one of the three trim materials listed below for versatility of service applications.
Color coding is made on a spoke of the handwheel of the gate or globe valves and on the cover of swing check valves.

Trim material	Color coding	Suffix of Fig.
■ Bronze seats / Brass stem	None	–
■ 13 Cr. seats / stem	Yellow	S
■ 18-8 seats / stem	Red	U

Conditions of Fluids and Maximum Permissible Pressures

Unit: MPa

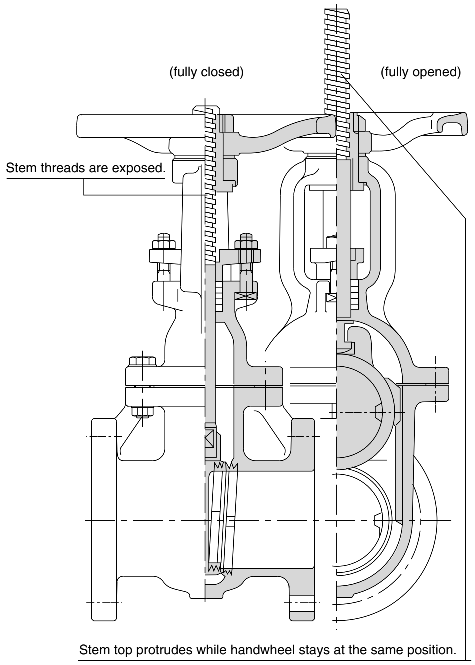
Standards		5 K	10 K					10 K	
Nominal pressure		JIS B2031	JIS B2031					KITZ standard	
Valve type		Outside screw gate valve	Outside screw gate valve	Glove valve, Swing check valve		Inside screw gate valve		Valve 350 A or more	FC300 valve
Disc seat structure		Press-fit seat	Screw seat	Screw seat		Press-fit seat		Screw seat	Press-fit seat
Main section		CAC406	CAC 406 13 chrome 18-8 stainless steel	CAC 406	13 chrome 18-8 stainless steel	CAC 406		CAC 406 13 chrome 18-8 stainless steel	CAC 406 13 chrome
Maximum permissible working pressure	**Steady flow below 120 degrees in centigrade**	0.7	1.4	1.4	–	1.4		1.0	1.0
	Oil, pulsating flow and water below 120 degrees in centigrade	0.5	1.0	1.0	–	1.0		0.9	0.9
	Saturated steam*1	0.2	0.7	0.7	–	0.2		0.7	0.7
	Gas below 120 degrees in centigrade	0.2	0.2	0.2	–	0.2		0.2	0.2
	120 degrees in centigrade	–	–	–	1.4	–		–	–
	220 degrees in centigrade	–	–	–	1.0	–		–	–

*1 When the main section is made of 18-8 stainless steel and used for steam piping, it is necessary to weld hardened metal cladding on the seat surface.
Please designate the same together with the steam specification.
When it is used for saturated steam at a pressure of 0.5 MPa or more, please designate accordingly.

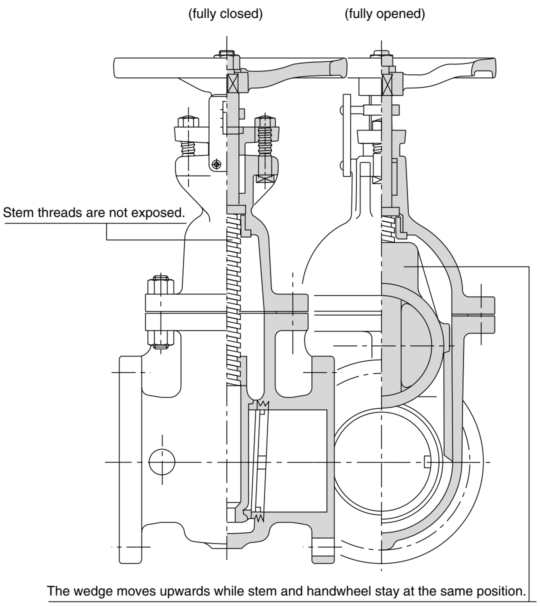
*2 Such gases as set forth in the High Pressure Gas Safety Act shall be excluded.
Gases—Gases other than flammable and toxic gases

Outside Screw (O.S.) Valves and Inside Screw (I.S.) Valves

Outside Screw Gate Valve


(fully closed)
(fully opened)
Stem threads are exposed.
Stem top protrudes while handwheel stays at the same position.

Inside Screw Gate Valve


(fully closed)
(fully opened)
Stem threads are not exposed.
The wedge moves upwards while stem and handwheel stay at the same position.

Outside Screw Gate Valves

The stem threads are exposed to air, and the valve opening operation moves the stem upward while the handwheel stays at the same position. The valve operating position can be visually known by observing the stem travel. KITZ Figs. FCM, FCL, FCLS and FCLU are designed this way.

Outside Screw Globe Valves

The stem and handwheel move upward or downward simultaneously, following the valve opening or closing operation. All KITZ globe valves have this design.

Inside Screw Gate Valves

The stem threads are not exposed to air and the valve opening operation does not cause movement of the stem or handwheel, and so, the valve operating position is not visible. A position indicator is provided for this reason.

Inside screw gate valves are generally designed to be shorter than outside screw gate valves and the stem and handwheels always stay at the same position. On account of this feature, inside screw gate valves are widely employed for underground installation or for service in narrow areas with limited room. KITZ Figs. FCWI and FCHI are designed this way.

Asbestos-free Packings and Gaskets

KITZ has led the industry in employing asbestos-free sealers for all cast iron valves, meeting the requirement of pollution-free valve materials. PTFE-impregnated glass fiber gland packings and compressed glass and aramid fiber gaskets are the standard sealers for KITZ cast iron valves.

Product Coding

125 FC L S
① ② ③ ④

① Valve class

100	Class 100
125	Class 125
5	JIS 5K
10	JIS 10K
EN16	PN16

② Symbol of shell material

FC	Cast Iron

③ Type of valve

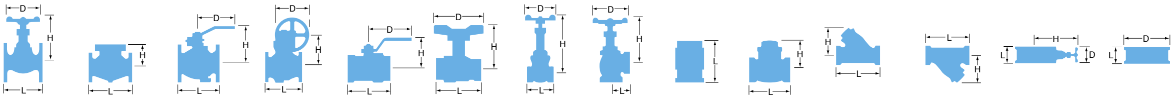
L	Gate valve
WI & HI	Gate valve with indicator
J	Globe valve
O	Check valve
TB	Full port ball valve
TR	Reduced port ball valve

④ Trim material

None	Bronze trim
U	Type 304 stainless steel
S	Type 403 stainless steel
M	Type 316 stainless steel

NOTE

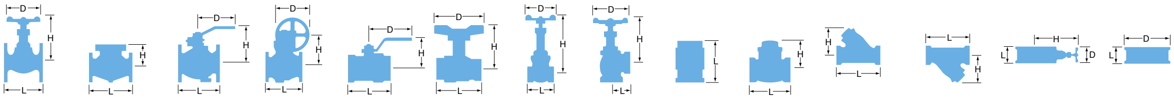
B.B. .... Bolted bonnet
O.S.&Y ... Outside screw & yoke
I.S. .... Inside screw
N.R.S. ..... Non-rising stem



Bronze & Brass
Cast Iron
Ductile Iron
Stainless Steel
Carbon Steel
Butterfly Valve
Ball Valve
Ball Valve Seat
Actuated Valve

TYPE			GATE			GATE			GATE			GATE			GATE		
Cast Iron																	
FIG			10FCHI			10FCL			10FCLS			125FCHI			125FCL		
PRESSURE			10K			10K			10K			Class 125			Class 125		
END CONNECTION			JIS B2239			JIS B2239			JIS B2239			ASME B16.1			ASME B16.1		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	140	210	140	165	306	160	165	306	160	140	210	140	–	–	–
	2	50	146	250	140	180	343	170	180	343	170	146	250	140	178	328	160
	2½	65	159	285	160	190	389	170	190	389	170	159	285	160	190	382	170
	3	80	165	350	160	200	462	200	200	462	200	165	350	160	203	436	170
	4	100	171	400	180	230	547	250	230	547	250	171	400	180	229	532	225
	5	125	190	460	225	250	648	280	250	648	280	190	465	225	254	627	225
	6	150	210	515	225	270	759	300	270	759	300	210	515	225	267	726	250
	8	200	241	635	300	290	956	350	290	956	350	241	630	300	292	919	280
	10	250	273	760	350	330	1168	400	330	1168	400	–	–	–	330	1134	350
	12	300	305	870	350	350	1363	450	350	1363	450	–	–	–	356	1363	450
	14	350	–	–	–	381	1560	500	381	1560	500	–	–	–	381	1560	500
	16	400	–	–	–	–	–	–	406	1795	600	–	–	–	–	–	–
	18	450	–	–	–	–	–	–	432	1995	600	–	–	–	–	–	–
	20	500	–	–	–	–	–	–	457	2230	680	–	–	–	–	–	–
	22	550	–	–	–	–	–	–	508	2640	760	–	–	–	–	–	–
BODY			Cast Iron			Cast Iron			Cast Iron			Cast Iron			Cast Iron		
BONNET			Cast Iron			Cast Iron			Cast Iron			Cast Iron			Cast Iron		
STEM			Forged Brass			Forged Brass			SUS403			Forged Brass			Forged Brass		
DISC			Cast Iron			Cast Iron			Cast Iron			Cast Bronze			Cast Bronze		
SEAT			–			–			BS:SUS403			–			–		

TYPE			GATE			GATE			GLOBE			GLOBE			GLOBE		
Cast Iron																	
FIG			125FCLS			125FCWI			10FCJ			10FCJS			125FCJ		
PRESSURE			Class 125			Class 125			10K			10K			Class 125		
END CONNECTION			ASME B16.1			ASME B16.1			JIS B2239			JIS B2239			ASME B16.1		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	–	–	–	190	260	160	190	260	160	–	–	–
	2	50	178	328	160	178	250	140	200	277	180	200	277	180	203	277	180
	2½	65	190	382	170	190	285	160	220	307	180	220	307	180	216	307	180
	3	80	203	436	170	203	350	160	240	353	225	240	353	225	241	353	225
	4	100	229	532	225	229	400	180	290	404	280	290	404	280	292	404	280
	5	125	254	627	225	254	465	225	360	467	300	360	454	300	330	467	300
	6	150	267	726	250	267	515	225	410	533	350	410	533	350	356	533	350
	8	200	292	919	280	292	630	300	500	642	450	500	642	450	495	620	450
	10	250	330	1134	350	330	760	350	–	–	–	620	665	450	–	–	–
	12	300	356	1363	450	356	870	350	–	–	–	700	883	500	–	–	–
	14	350	381	1560	500	–	–	–	–	–	–	–	–	–	–	–	–
	16	400	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	18	450	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	20	500	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	22	550	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Cast Iron			Cast Iron			Cast Iron			Cast Iron			Cast Iron		
BONNET			Cast Iron			Cast Iron			Cast Iron			Cast Iron			Cast Iron		
STEM			SUS403			Forged Brass			Forged Brass			SUS403			Forged Brass		
DISC			Cast Bronze			Cast Iron			Cast Bronze			Cast Bronze			Cast Bronze		



TYPE			GLOBE			SWING CHECK			SWING CHECK			SWING CHECK			WAFER CHECK		
Cast Iron																	
FIG			125FCJS			10FCO			10FCOC			125FCO			10FWZ		
PRESSURE			Class 125			10K			10K			Class 125			10K		
END CONNECTION			ASME B16.1			JIS B2220			JIS B2220			ASME B16.1			Wafer Type		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	190	106	140	–	–	–	–	–	–	54	128	55
	2	50	203	277	180	200	111	155	200	116	155	203	111	152	56	143	70
	2½	65	216	307	180	220	121	175	220	126	175	216	121	178	56	150	70
	3	80	241	353	225	240	145	185	240	153	185	241	145	190	59	156	70
	4	100	292	404	280	290	165	210	290	170	210	292	165	229	66	169	70
	5	125	330	467	300	360	207	250	360	217	250	330	207	254	72	183	70
	6	150	356	533	350	410	225	280	410	235	280	356	225	279	78	216	80
	8	200	495	620	450	500	268	330	500	273	330	495	268	343	96	243	80
	10	250	–	–	–	620	315	400	–	–	–	622	315	406	109	290	90
	12	300	–	–	–	700	356	445	–	–	–	–	–	–	145	315	90
	14	350	–	–	–	–	–	–	–	–	–	–	–	–	184	330	90
	16	400	–	–	–	–	–	–	–	–	–	–	–	–	191	355	90
	18	450	–	–	–	–	–	–	–	–	–	–	–	–	204	388	90
	20	500	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	24	600	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Cast Iron			Cast Iron			Cast Iron			Cast Iron			Cast Iron+NBR		
BONNET			Cast Iron			–			–			–			–		
COVER			–			Cast Iron			Cast Iron			Cast Iron			–		
STEM			SUS403			–			–			–			–		
HINGE PIN			–			Forged Brass			Forged Brass			Forged Brass			SUS304		
DISC			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		

TYPE			WAFER CHECK			WAFER CHECK			WAFER CHECK			WAFER CHECK		
Cast Iron														
FIG			125FWNB			125FWNBE			PN16FWNBM			PN16FWNBME		
PRESSURE			Class 125			125FWNBE			PN16			PN16		
END CONNECTION			Wafer Type			Wafer Type			Wafer Type			Wafer Type		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	–	–	–	–	–	–	–	–	–
	2	50	54	–	105	54	–	105	–	–	–	–	–	–
	2½	65	54	–	124	54	–	124	–	–	–	–	–	–
	3	80	57	–	137	57	–	137	–	–	–	–	–	–
	4	100	64	–	175	64	–	175	–	–	–	–	–	–
	5	125	70	–	197	70	–	197	–	–	–	–	–	–
	6	150	76	–	222	76	–	222	–	–	–	–	–	–
	8	200	95	–	279	95	–	279	–	–	–	–	–	–
	10	250	108	–	340	108	–	340	–	–	–	–	–	–
	12	300	143	–	410	143	–	410	–	–	–	–	–	–
	14	350	–	–	–	–	–	–	184	–	446	184	–	446
	16	400	–	–	–	–	–	–	191	–	498	191	–	498
	18	450	–	–	–	–	–	–	203	–	558	203	–	558
	20	500	–	–	–	–	–	–	213	–	620	213	–	620
	24	600	–	–	–	–	–	–	222	–	737	222	–	737
BODY			Cast Iron			Cast Iron			Cast Iron			Cast Iron		
BONNET			–			–			–			–		
HINGE PIN			Steinless Steel			Steinless Steel			TYPE 304			TYPE 304		
DISC			Bronze			Bronze			CF8M			CF8M		
SEAT			NBR			EPDM			NBR			EPDM		

TYPE			Y TYPE STRAINER			Y TYPE STRAINER		
Cast Iron								
FIG			10FCY			125FCY		
PRESSURE			10K			Class 125		
END CONNECTION			JIS B2220			ASME B16.1		
DIMENSIONS	inch	mm	L	H	D	L	H	D
	3/8	10	115	46	–	–	–	–
	1/2	15	125	57	–	–	–	–
	3/4	20	140	63	–	–	–	–
	1	25	150	77	–	–	–	–
	1 1/4	32	170	90	–	–	–	–
	1 1/2	40	190	100	–	–	–	–
	2	50	230	127	–	250	168	–
	2 1/2	65	305	208	–	285	212	–
	3	80	360	237	–	315	242	–
	4	100	415	280	–	370	284	–
	5	125	465	325	–	420	325	–
	6	150	515	370	–	490	370	–
	8	200	580	457	–	570	440	–
	10	250	680	536	–	680	515	–
	12	300	800	625	–	800	600	–
	14	350	950	741	–	950	740	–
BODY			Cast Iron			Cast Iron		
COVER			Cast Iron			Cast Iron		
STEM			–			–		
DISC			–			–		
SCREEN			SUS304			SUS304		

KITZ
GENERAL CATALOG

DUCTILE IRON

What is Ductile Iron ?

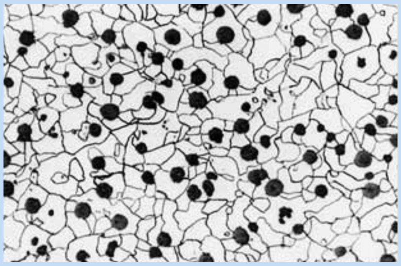
Gray iron, ductile iron, and malleable iron are the three kinds of iron used for valve construction. Unlike gray iron, which has thin, flake-like molecular formations, the metallic structures of both ductile and malleable iron contain nodular graphite. (Refer to the microscopic views shown here.) Ductile and malleable iron have superior mechanical properties compared to gray iron. They have properties almost equivalent to cast steel, which is an expensive material for industrial valves. Furthermore, their superior casting characteristics and ease of machining help to increase their suitability as a valve material.

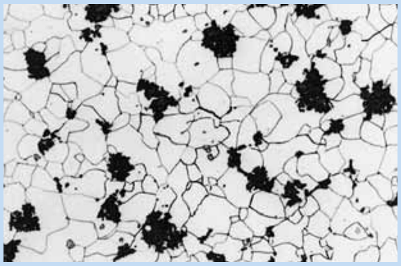
Ductile iron outperforms malleable iron owing to its better mechanical characteristics for building the valve body, which is a kind of pressure-containing device. For example, ductile iron has a 20% higher tensile strength and 70% to 80% better elongation than malleable iron. This difference is attributed to the different formation processes of nodulated graphite molecules.

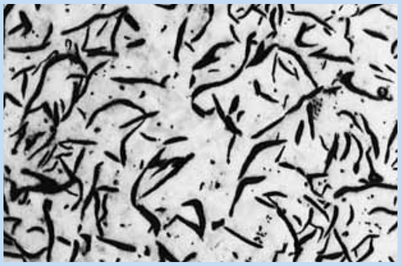
KITZ ductile iron valves are made of JIS FCD-S or ASTM A395 ductile iron. The history of the introduction of ductile iron valves on the market is rather short; however, their demand is steadily increasing owing to their economic advantage as well as the fact that their wide range of service applications is comparable to that of cast steel valves.

This catalog serves to provide the design specifications, construction materials, and external dimensions of the following ductile iron valves and strainers manufactured by KITZ Corporation :

- JIS 10K,16K, and 20K Gate, Globe, and Check Valves
- JIS 10K and 20K Ball Valves
- JIS 10K, 16K, and 20K Strainers
- ASME 150 and 300 Gate, Globe, and Check Valves


Ductile iron


Malleable iron


Gray iron

Service Recommendation

For achieving higher mechanical shock resistance under high or low temperature and for achieving better tensile strength and elongation characteristics than those of ordinary gray iron valves, the use of ductile iron valves is highly recommended for the following services, sometimes, in place of cast:

- Piping for steam supply
- Air-conditioning and heating systems
- High-pressure gaseous service in general
- Piping for poisonous gas service

The range of high-pressure gaseous service for iron valves is specified by the Ministry of Economy, Trade and Industry of Japan as follows :

Valve material	Poisonous gas*	Inflammable gas	Other gas
Ductile iron (JIS FCD-S)	2.4 MPa maximum −5°C to + 350°C		
Ductile iron (JIS FCD400)	not recommended	1.6 MPa maximum 0°C to + 250°C	
Gray iron (JIS FC200)	not recommended		0.2 MPa maximum 0°C to + 250°C

*Phosgene and hydrogen cyanide are excluded.

Material Specifications of JIS FCD-S

1. Chemical composites:

Carbon	: 3.00% minimum
Phosphor	: 0.08% maximum
Silicon	: 2.50% maximum; however, 0.08% may be added for every decrease of 0.01% phosphor within the total maximum of 2.75%

2. Mechanical properties:

Tensile strength	: 412 N/mm^2 (42 kgf/mm^2) minimum
Yield strength	: 275 N/mm^2 (28 kgf/mm^2) minimum
Elongation	: 18% minimum
Brinell hardness	: 143 to 187

Charpy impact value:

a) for ambient temperature service;

17 N·m/cm^2 (1.7 kgf·m/cm^2) minimum in an average of three test pieces.

15 N·m/cm^2 (1.5 kgf·m/cm^2) minimum for the lowest impact value.

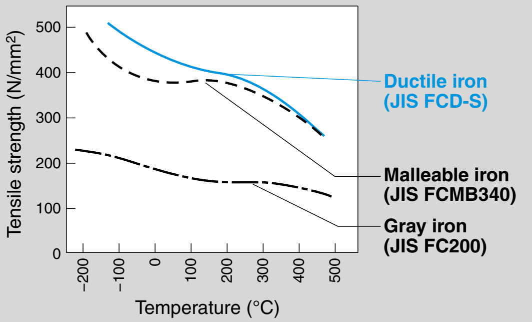
b) for –10°C or lower temperature service;

15.3 N·m/cm^2 (1.53 kgf·m/cm^2) minimum in an average of three test pieces.

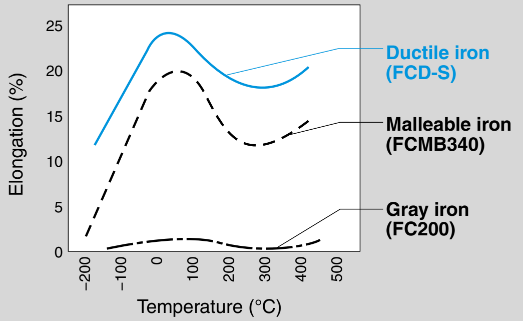
13.3 N·m/cm^2 (1.33 kgf·m/cm^2) minimum for the lowest impact value.

Compared Mechanical Properties of JIS Materials

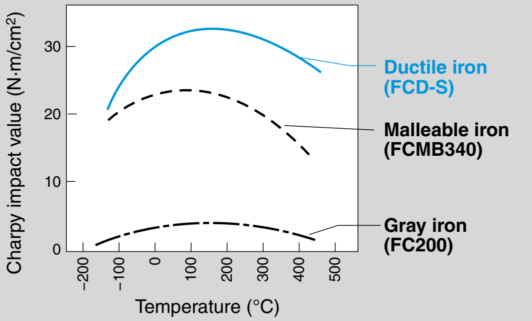
Tensile strength



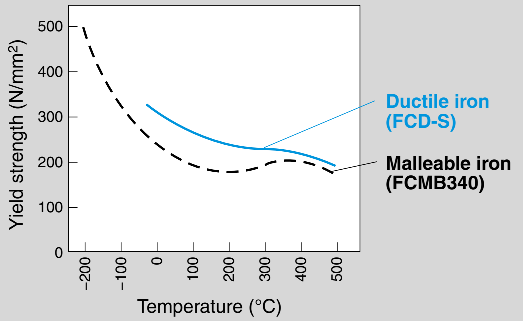
Elongation



Charpy impact value

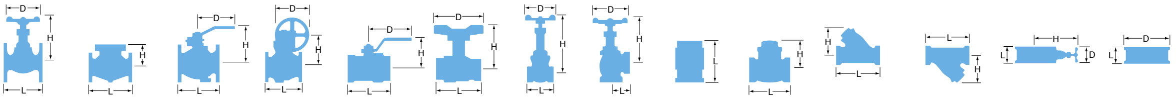


Yield strength



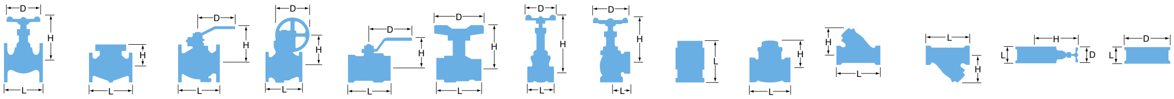
Design Specifications (Please refer to our website (www.kitz.co.jp) or contact KITZ for details.)

Class	JIS 10K/16K/20K	ASME 150/300
Face to face dimension	JIS B 2011, B 2002, or KITZ Std.	ASME B16. 10
End to end dimension	JIS B 2051 or KITZ Std.	—
End flange dimension	JIS B 2239	ASME B16. 5
End thread dimension	JIS B 0203	—
Shell wall thickness	KITZ standard, unless otherwise indicated on the following pages	



TYPE			GATE			GATE			GATE			GATE			GATE		
Ductile Iron																	
FIG			10SMS			10SMBF			10SMBOF			16SMB			16SMBO		
PRESSURE			10K			10K			10K			16K			16K		
END CONNECTION			BS21 (JIS B0203)			JIS B2239			JIS B2239			JIS B2239			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	60	150	60	90	164	70	–	–	–	108	163	70	–	–	–
	¾	20	70	171	70	100	165	70	–	–	–	117	164	70	–	–	–
	1	25	75	198	80	110	188	80	–	–	–	127	187	80	–	–	–
	1¼	32	85	233	90	120	219	90	–	–	–	140	219	90	–	–	–
	1½	40	95	274	100	130	253	100	165	300	160	165	253	100	165	300	160
	2	50	105	318	115	140	285	115	178	352	200	178	285	115	178	352	200
	2½	65	–	–	–	–	–	–	190	410	200	–	–	–	190	410	200
	3	80	–	–	–	–	–	–	203	479	250	–	–	–	203	479	250
	4	100	–	–	–	–	–	–	229	566	250	–	–	–	229	566	250
	5	125	–	–	–	–	–	–	254	667	300	–	–	–	254	667	300
	6	150	–	–	–	–	–	–	267	779	300	–	–	–	267	779	300
	8	200	–	–	–	–	–	–	292	969	350	–	–	–	292	969	350
	10	250	–	–	–	–	–	–	330	1181	400	–	–	–	330	1181	400
	12	300	–	–	–	–	–	–	356	1404	450	–	–	–	356	1404	450
BODY			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
BONNET			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
STEM			SUS420J2			SUS420J2			SUS403			SUS420J2			SUS403		
DISC			SCS1			SCS1			SUS403 / SCS1			SCS1			SUS403 / SCS1		

TYPE			GATE			GATE			GATE			GLOBE			GLOBE		
Ductile Iron																	
FIG			16SMS			20SLS			150SMBO			10SJ			10SJBF		
PRESSURE			16K			20K			Class 150			10K			10K		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			ASME B16.1			BS21 (JIS B0203)			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	50	108	60	–	–	–
	⅜	10	–	–	–	–	–	–	–	–	–	55	108	60	85	108	60
	½	15	65	163	70	70	175	90	–	–	–	65	122	70	85	122	70
	¾	20	75	182	80	75	177	90	–	–	–	80	125	80	95	125	80
	1	25	80	212	90	85	214	100	–	–	–	90	146	90	110	146	90
	1¼	32	90	245	100	95	241	115	–	–	–	105	160	100	130	160	100
	1½	40	100	285	115	105	277	135	165	300	160	120	180	115	150	180	115
	2	50	110	330	135	115	301	135	178	352	200	140	198	135	180	198	135
	2½	65	–	–	–	–	–	–	190	408	200	180	250	180	210	250	180
	3	80	–	–	–	–	–	–	203	473	250	200	280	225	240	280	225
	4	100	–	–	–	–	–	–	229	566	250	–	–	–	–	–	–
	5	125	–	–	–	–	–	–	254	667	300	–	–	–	–	–	–
	6	150	–	–	–	–	–	–	267	779	300	–	–	–	–	–	–
	8	200	–	–	–	–	–	–	292	969	350	–	–	–	–	–	–
	10	250	–	–	–	–	–	–	330	1181	400	–	–	–	–	–	–
	12	300	–	–	–	–	–	–	356	1404	450	–	–	–	–	–	–
BODY			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
BONNET			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
STEM			SUS420J2			SUS420J2			SUS403			SUS420J2			SUS420J2		
DISC			SCS1			SCS1			SUS403 / SCS1			SUS403			SUS403		



TYPE			GLOBE			GLOBE			GLOBE			GLOBE			GLOBE		
Ductile Iron																	
FIG			10SP			10SPBF			10SPBOF			10SPD			10SPDBF		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			BS21 (JIS B0203)			JIS B2239			JIS B2239			BS21 (JIS B0203)			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	64	107	60	108	107	60	–	–	–	–	–	–	–	–	–
	½	15	70	125	80	108	125	80	–	–	–	70	125	80	108	125	80
	¾	20	80	125	80	117	125	80	–	–	–	80	125	80	117	125	80
	1	25	90	145	100	127	145	100	–	–	–	90	146	100	127	145	100
	1¼	32	110	162	115	140	162	115	–	–	–	110	162	115	140	162	115
	1½	40	120	180	115	165	180	115	–	–	–	120	180	115	165	180	115
	2	50	140	198	135	203	198	135	203	302	200	140	198	135	203	198	135
	2½	65	–	–	–	–	–	–	216	317	225	–	–	–	–	–	–
	3	80	–	–	–	–	–	–	241	356	250	–	–	–	–	–	–
	4	100	–	–	–	–	–	–	292	377	250	–	–	–	–	–	–
	5	125	–	–	–	–	–	–	356	460	300	–	–	–	–	–	–
	6	150	–	–	–	–	–	–	406	524	350	–	–	–	–	–	–
	8	200	–	–	–	–	–	–	495	585	400	–	–	–	–	–	–
BODY			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
BONNET			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
STEM			SUS420J2			SUS420J2			SUS420J2			SUS420J2			SUS420J2		
DISC			SUS403			SUS403			SUS403			G/F PTFE			G/F PTFE		
												Soft Seated disc			Soft Seated disc		

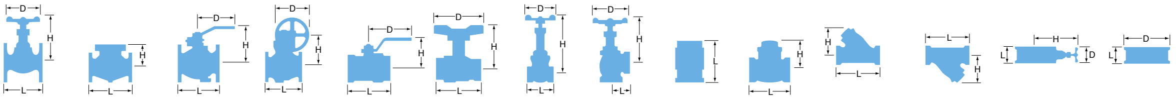
TYPE			GLOBE			GLOBE			GLOBE			GLOBE			GLOBE		
Ductile Iron																	
FIG			10SPDBOF			10SD			10SDBF			10SDL			10SDLBF		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B2239			BS21 (JIS B0203)			JIS B2239			BS21 (JIS B0203)			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	50	108	60	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	55	108	60	85	108	60	55	112	55	85	112	55
	½	15	–	–	–	65	123	70	85	123	70	65	122	60	85	122	60
	¾	20	–	–	–	80	123	80	95	123	80	80	130	70	95	130	70
	1	25	–	–	–	90	144	90	110	144	90	90	149	80	110	149	80
	1¼	32	–	–	–	105	159	100	130	159	100	105	169	90	130	169	90
	1½	40	–	–	–	120	178	115	150	178	115	120	187	100	150	187	100
	2	50	203	302	200	140	197	135	180	197	135	140	205	115	180	205	115
	2½	65	216	317	225	180	262	180	210	262	180	–	–	–	–	–	–
	3	80	241	356	250	200	295	225	240	295	225	–	–	–	–	–	–
	4	100	292	377	250	–	–	–	–	–	–	–	–	–	–	–	–
	5	125	356	460	300	–	–	–	–	–	–	–	–	–	–	–	–
	6	150	406	527	350	–	–	–	–	–	–	–	–	–	–	–	–
	8	200	495	600	400	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
BONNET			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
STEM			SUS403			SUS420J2			SUS420J2			SUS420J2			SUS420J2		
DISC			G/F PTFE			G/F PTFE			G/F PTFE			G/F PTFE			G/F PTFE		
			Soft Seated disc			Soft Seated disc			Soft Seated disc			Soft Seated disc			Soft Seated disc		

TYPE			GLOBE			GLOBE			GLOBE			GLOBE			GLOBE		
Ductile Iron																	
FIG			16SP			16SPB			16SPBO			20SY			20SYB		
PRESSURE			16K			16K			16K			20K			20K		
END CONNECTION			BS21 (JIS B0203)			JIS B2239			JIS B2239			BS21 (JIS B0203)			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	64	110	60	108	111	60	–	–	–	75	136	70	110	136	70
	½	15	70	122	80	108	122	80	–	–	–	78	138	80	110	138	80
	¾	20	85	128	80	117	128	80	–	–	–	91	157	100	120	157	100
	1	25	95	147	100	127	146	100	–	–	–	105	178	115	130	178	115
	1¼	32	110	165	115	140	165	115	–	–	–	122	202	135	160	202	135
	1½	40	125	182	115	165	182	115	–	–	–	135	210	135	180	210	135
	2	50	145	196	135	203	198	135	203	302	200	160	239	180	230	239	180
	2½	65	–	–	–	–	–	–	216	313	225	–	–	–	–	–	–
	3	80	–	–	–	–	–	–	241	356	250	–	–	–	–	–	–
	4	100	–	–	–	–	–	–	292	377	250	–	–	–	–	–	–
	5	125	–	–	–	–	–	–	356	460	300	–	–	–	–	–	–
	6	150	–	–	–	–	–	–	406	524	350	–	–	–	–	–	–
	8	200	–	–	–	–	–	–	495	585	400	–	–	–	–	–	–
BODY			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
BONNET			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
STEM			SUS420J2			SUS420J2			SUS403			SUS420J2			SUS420J2		
DISC			SUS403			SUS403			SUS403			SUS403+HF			SUS403+HF		

TYPE			GLOBE			GLOBE			LIFT CHECK			LIFT CHECK			LIFT CHECK		
Ductile Iron																	
FIG			150SPB			150SPDB			10SF			10SFBF			10SN		
PRESSURE			Class 150			Class 150			10K			10K			10K		
END CONNECTION			ASME B16.1			ASME B16.1			BS21 (JIS B0203)			JIS B2239			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	½	15	108	122	80	108	127	70	65	39	28	85	39	95	70	50	30
	¾	20	117	128	80	117	135	70	80	42	34	95	42	100	80	53	36
	1	25	127	146	100	127	155	90	90	48	42	110	48	125	90	61	45
	1¼	32	140	165	115	140	172	100	105	56	52	130	56	135	110	69	55
	1½	40	165	179	115	165	193	115	120	65	58	150	65	140	120	75	60
	2	50	203	198	135	203	208	135	140	73	72	180	73	155	140	87	78
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	80	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	5	125	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	6	150	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	8	200	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
BONNET			Ductile Iron			Ductile Iron			–			–			CF8 / TYPE304		
CAP			–			–			TYPE 403 / SCS1			TYPE 403 / SCS1			–		
STEM			SUS420J2			SUS420J2			–			–			–		
DISC			SUS403			G/F PTFE			SUS403			SUS403			SUS403 / SCS1		
						Soft Seated disc											

TYPE			LIFT CHECK			LIFT CHECK			LIFT CHECK			LIFT CHECK			SWING CHECK		
Ductile Iron																	
FIG			10SNBF			16SF			16SFB			20SN			10SRBF		
PRESSURE			10K			16K			16K			20K			10K		
END CONNECTION			JIS B2239			BS21 (JIS B0203)			JIS B2239			BS21 (JIS B0203)			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	50	95	70	50	30	108	50	95	78	56	32	–	–	–
	¾	20	117	53	100	85	53	36	117	53	100	91	60	38	–	–	–
	1	25	127	61	125	95	61	45	127	61	125	105	68	47	–	–	–
	1¼	32	140	69	135	110	69	55	140	69	135	122	80	57	–	–	–
	1½	40	165	75	140	125	75	60	165	75	140	135	85	62	165	115	140
	2	50	203	87	155	145	87	78	203	87	155	160	99	79	203	120	155
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–	216	130	175
	3	80	–	–	–	–	–	–	–	–	–	–	–	–	241	145	185
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	292	160	210
	5	125	–	–	–	–	–	–	–	–	–	–	–	–	330	195	250
	6	150	–	–	–	–	–	–	–	–	–	–	–	–	356	215	280
	8	200	–	–	–	–	–	–	–	–	–	–	–	–	495	255	330
	10	250	–	–	–	–	–	–	–	–	–	–	–	–	622	310	400
	12	300	–	–	–	–	–	–	–	–	–	–	–	–	698	350	445
BODY			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
BONNET			CF8 / TYPE304			CF8 / TYPE304			CF8 / TYPE304			TYPE 403 / SCS1			Ductile Iron		
COVER			–			–			–			–			Ductile Iron		
HINGE PIN			–			–			–			–			SUS403		
DISC			SUS403 / SCS1			SUS403 / SCS1			SUS403 / SCS1			SCS13A+HF			SUS403		
SEAT			–			–			–			Stainless Steel+HF			–		

TYPE			SWING CHECK			SWING CHECK			SWING CHECK		
Ductile Iron											
FIG			16SRB			20SOB			150SRB		
PRESSURE			16K			20K			Class 150		
END CONNECTION			JIS B2239			JIS B2239			ASME B16.1		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	–	–	–	165	115	127
	2	50	203	120	155	267	135	155	203	120	152
	2½	65	216	135	175	292	145	175	216	130	178
	3	80	241	145	200	318	160	200	241	145	190
	4	100	292	165	225	356	185	225	292	165	229
	5	125	330	200	270	400	220	270	330	200	254
	6	150	356	220	305	444	240	305	356	220	279
	8	200	495	265	350	533	275	350	495	260	343
	10	250	622	320	430	622	335	430	622	320	406
	12	300	698	360	480	711	370	480	698	360	483
	14	350	–	–	–	–	–	–	–	–	–
	16	400	–	–	–	–	–	–	–	–	–
	18	450	–	–	–	–	–	–	–	–	–
BODY			Ductile Iron			Ductile Iron			Ductile Iron		
COVER			Ductile Iron			Ductile Iron			Ductile Iron		
HINGE PIN			SUS403			SUS403			SUS403		
DISC			SUS403			SUS403			SUS403		



TYPE			WAFER CHECK			WAFER CHECK			WAFER CHECK		
Ductile Iron											
FIG			10SWZU			20SWZ			20SWZU		
PRESSURE			10K			20K			20K		
END CONNECTION			Wafer Type			Wafer Type			Wafer Type		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	54	128	55	–	–	–
	2	50	56	161	70	56	133	60	56	146	60
	2½	65	56	168	70	60	150	70	60	168	70
	3	80	59	174	70	67	156	70	67	174	70
	4	100	66	187	70	68	169	70	68	187	70
	5	125	72	201	70	83	183	70	83	201	70
	6	150	78	220	80	95	216	80	95	219	80
	8	200	96	247	80	127	243	80	127	246	90
	10	250	109	298	90	140	290	90	140	293	90
	12	300	145	324	90	181	315	90	181	318	90
	14	350	184	337	90	184	330	90	184	337	90
	16	400	191	365	90	191	355	90	191	365	90
	18	450	204	394	90	204	388	90	204	394	90
BODY			Ductile Iron+NBR			Ductile Iron+NBR			Ductile Iron+NBR		
BONNET			–			–			–		
HINGE PIN			SUS304			SUS304			SUS304		
DISC			SCS13			Cast Bronze			SCS13		

TYPE			Y TYPE STRAINER			Y TYPE STRAINER			Y TYPE STRAINER			Y TYPE STRAINER			Y TYPE STRAINER		
Ductile Iron																	
FIG			10FDY			10FDYBF			16FDY			16FDYB			20FDY		
PRESSURE			10K			10K			16K			16K			20K		
END CONNECTION			BS21 (JIS B0203)			JIS B2239			BS21 (JIS B0203)			JIS 2239			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	65	46	21	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	70	46	23	–	–	–	–	–	–	–	–	–	80	65	27
	½	15	85	60	30	125	57	95	85	60	32	125	57	95	85	65	32
	¾	20	100	65	36	140	63	100	100	65	38	140	63	100	100	70	38
	1	25	115	75	45	150	77	125	115	75	47	150	77	125	115	83	47
	1¼	32	135	90	55	170	90	135	135	90	57	170	90	135	135	120	57
	1½	40	150	100	60	190	100	140	150	100	62	190	100	140	150	130	62
	2	50	180	115	78	230	138	155	180	115	79	250	158	155	180	152	79
	2½	65	220	191	90	305	212	175	–	–	–	305	212	175	–	–	–
	3	80	250	215	105	360	242	185	–	–	–	360	242	200	–	–	–
	4	100	-	–	–	415	284	210	–	–	–	415	284	225	–	–	–
	5	125	-	–	–	465	325	250	–	–	–	465	325	270	–	–	–
	6	150	-	–	–	515	370	280	–	–	–	515	370	305	–	–	–
	8	200	-	–	–	580	462	330	–	–	–	580	462	350	–	–	–
	10	250	-	–	–	680	536	400	–	–	–	680	536	430	–	–	–
	12	300	-	–	–	800	625	445	–	–	–	800	625	480	–	–	–
BODY			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
CAP			Ductile Iron			–			Brass			–			Ductile Iron		
COVER			–			Ductile Iron			–			Ductile Iron			Ductile Iron		
DISC			–			–			–			–			–		
SCREEN			SUS304			SUS304			SUS304			SUS304			SUS304		

KITZ
GENERAL CATALOG

STAINLESS STEEL

Stainless Steel

General Design Specifications

Series	Norminal pressure	Pressure - temperature ratings*	Face to face dimensions	End connection dimensions	Wall Thickness
A	10K	JIS B2220	JIS B2002	JIS B2220 10K flanged	ASME B16.34
	20K			JIS B2220 20K flanged	
	Class 150/300/600	ASME B16.34	ASME B16.10	ASME B16.5 flanged	
HA	Class 150/300	ASME B16.34	ASME B16.10	ASME B16.5 flanged	API 603
C	Class 150/300/600/900/1500	ASME B16.34	ASME B16.10	ASME B16.5 flanged	API 600
B	5K	0.5MPa 150°C	JIS B 2011 KITZ Std.	JIS B0203 threaded JIS B2220 5K 10K flanged	JIS B 2011 KITZ Std.
	10K	1.0MPa 180°C			
	20K	2.0MPa 180°C			
	Type 200	KITZ Std.		ASME B1.20.1 threaded	
D	Class 150/300/600	ASME B16.34	KITZ Std.	ASME B1.20.1 threaded ASME B16.11 socket welded	ASME B16.34
AJ	10K	JIS B2220	KITZ Std.	JIS B2220 10K flanged	ASME B16.34
	20K			JIS B2220 20K flanged	
	Class 150/300	ASME B16.34		ASME B16.5 flanged	

*Actual pressure-temperature rating in service depends on the materials of gland packing and gasket chosen for valves.

Bonnet Gasket Materials

Depending on the class ratings and servicing conditions, the following gasket materials are available* for the body/bonnet flange gaskets of KITZ stainless and high alloy steel valves. Specify your gasket material in your purchase order.

Series	Series C			Series A·HA·D·AJ		
Gasket material	**Class 150**	**Class 300**	**Class 600/900/1500**	**10K, Class 150**	**20k, Class 300**	**Class 600**
Corrugated metal	●					
Ring joint metal			●			
Spiral wound metal, PTFE filled		●			●	●
Flexible graphite	●			●	●	
Spiral wound metal, flexible graphite filled		●			●	●
Stainless steel inserted flexible graphite	●			●	●	
Ceramic filled PTFE	●			●	●	

Please refer to our website (www.kitz.co.jp) or contact KITZ for details. *Except Series B valves, which employ only KITZ standard materials.

Gland Packing Materials

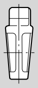
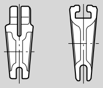
The following packing materials can be chosen for KITZ stainless and high alloy steel valves, depending on the service conditions or market requirements. Specify your packing material in your purchase order.

	Packing material	Service conditions
Asbestos-free	Braided PTFE fiber	260°C (500°F) corrosion resistant
	PTFE cup & cone / PTFE V-ring	150°C (300°F) corrosion resistant
	Carbon fiber	500°C (930°F) high pressure
	Flexible graphite	600°C (1110°F)* corrosion resistant
	Inconel wired flexible graphite	600°C (1110°F)* corrosion resistant

Please refer to our website (www.kitz.co.jp) or contact KITZ for details. *Except Series B valves, which employ only KITZ standard materials. *455°C (850°F) for oxidizing atmosphere.

Contact KITZ Corporation or your KITZ distributors for an optional requirement for gasket or gland packing materials other than those listed above.

Disc Construction

Series	Nominal pressure	Solid wedge 	Flexible wedge 
A	10K, 20K, Class 150, 300, 600	—	All sizes
HA	Class 150, 300	—	All sizes
C	Class 150, 300	4 and smaller	6 and larger
	Class 600, 900, 1500	1 1/2 and smaller	2 and larger
B	5K, 10K, 20K, 200	All sizes	—
D	Class 150, 300, 600	—	All sizes
AJ	10K, 20K, Class 150, 300	—	All sizes

Pressure-Temperature Ratings for Series B (KITZ Standard)

MPa

Temperature	W	G_1	G_2
	120°C below	150°C below	180°C below
5K	0.7	0.5	—
10K	1.4	1.1	1.0
20K	2.0	1.2	1.0

W: Static water without pressure variation
G1,G2: Steam, air, non-inflammable gas and oil (lubricant and machining oil)
Note: Actual pressure-temperature rating in service depends on the materials of gland packing and gasket chosen for valves.

Product Coding (Except for Series B)

AK-150 U M A M 4
① ② ③ ④ ⑤ ⑥ ⑦

① End connection
None.. RF-Flanged with smooth finished gasket face
AK...... Threaded Ends to ASME B1.20.1 NPT
AW..... Socket Welding Ends to ASME B16.11

② Nominal pressure

Code	Nominal pressure	Code	Nominal pressure
5	JIS 5K	300	ASME 300
10	JIS 10K	600	ASME 600
20	JIS 20K	900	ASME 900
150	ASME Class150	1500	ASME Class1500

③ Product indentification
U... Identification code for stainless and high alloy steel valves in general.

④ Valve type
M... Gate valves
P... Globe valves
PD..Soft Seated Globe valves
O... Swing Check valves
N... Lift Check valves
Y... Y-pattern Strainers

⑤ Valve design

Code	Series
A........	Series A
HA.....	Series HA
C.......	Series C
None..	Series D
AJ......	Series A, Jacketed
AW.....	Series A, Bellows Seal

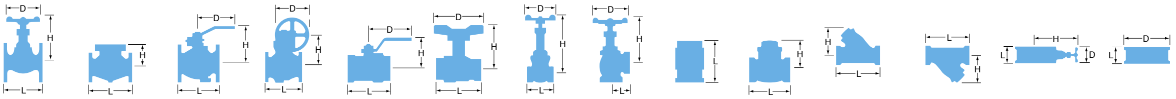
⑥ Shell material
None..CF8 (304)
M........CF8M (316)
O........CF3M (316L)
V........CF3 (304L)
CB..... CF8C (321)
CG..... CG8M (317)
CK..... CK20 (310)
SD..... Super Duplex Stainless Steel (SDPV-K1)
CN..... CN7M (Alloy 20)
HB..... N-12MV (Hastelloy B)
HC..... CW-12MW (Hastelloy C)

⑦ Nominal valve size
JIS flanged.. in mm base
Others......... in inches base

KITZ Low Emission Valves

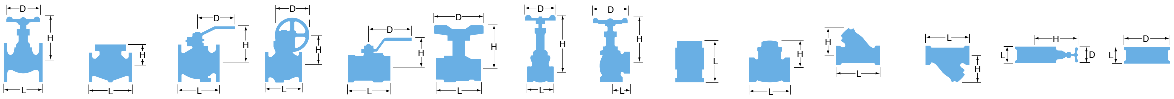
In the United States, the Federal Clean Air Act was amended drastically in 1990 in order to realize the new environmental protection policy of a 95% reduction in fugitive emission or leak levels of toxic gases and chemicals from plant equipment. Promulgated in April 1994, the new law requires all plants handling a toxic gas specified by the Environmental Protection Agency to periodically monitor their plant equipment for the detection of leaks exceeding 500 ppm, and to repair or replace all defective parts immediately. California has exceeded the Federal Law with a state regulation requiring a maximum leak level of 100 ppm for an astonishing 99% reduction in such environmental pollution for the Northern California Region after 1997.

Our low emission valves—the proud fruits of several years of trial and error at our laboratory—are designed, engineered, manufactured, and tested to now meet the 100-ppm maximum emission level. This is the standard specification in North America for KITZ Class 150, 300, and 600 Series A and C stainless and high alloy steel valves. In other markets, all these low emission valves are optionally available. Major design considerations for having upgraded our standard valves to low emission performance are introduced below.



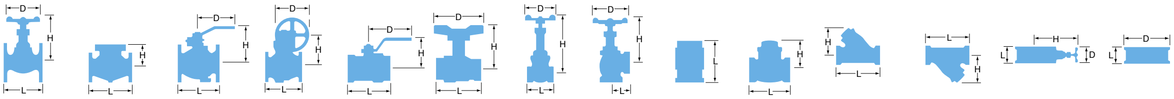
TYPE			B-SERIES GATE			B-SERIES GATE			B-SERIES GATE			B-SERIES GATE			B-SERIES GATE		
Stainless Steel																	
FIG			UE			UEM			UEB			UEBM			UEL		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			JIS B2220			JIS B2220			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	–	–	–	–	–	–	85	99	70	–	–	–	54	96	70
	¾	20	–	–	–	–	–	–	95	105	70	–	–	–	58	101	70
	1	25	–	–	–	–	–	–	100	116	80	100	116	80	65	112	80
	1¼	32	–	–	–	–	–	–	110	128	80	110	128	80	74	123	80
	1½	40	–	–	–	–	–	–	125	170	100	125	170	100	78	150	100
	2	50	–	–	–	–	–	–	140	188	100	140	188	100	87	167	100
	2½	65	115	248	135	115	248	135	170	248	135	170	248	135	–	–	–
	3	80	130	275	155	130	275	155	190	275	155	190	275	155	–	–	–
	4	100	155	315	200	155	315	200	–	–	–	–	–	–	–	–	–
BODY			SCS13A			SCS13A			SCS13A			SCS14A			SCS13A		
BONNET			SCS13A			SCS13A			SCS13A / SUS304			SCS14A / SUS316			SCS13A		
STEM			SUS304			SUS304			SUS304			SUS316			SUS304		
DISC			SCS13A			SCS13A			SCS13A			SCS14A			SCS13A		

TYPE			B-SERIES GATE			B-SERIES GATE			A-SERIES GATE			A-SERIES GATE			A-SERIES GATE		
Stainless Steel																	
FIG			UELM			DKUELM			10UMA / 10UMAT			10UMAM / 10UMAMT			20UMA / 20UMAT		
PRESSURE			10K			PN16			10K			10K			20K		
END CONNECTION			BS21 (JIS B0203)			DIN 259			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	54	96	70	54	96	70	108	201	90	108	201	90	140	209	100
	¾	20	58	101	70	58	101	70	117	211	90	117	211	90	152	220	100
	1	25	65	112	80	65	112	80	127	224	100	127	224	100	165	239	100
	1¼	32	74	123	80	74	123	80	140	240	100	140	240	100	–	–	–
	1½	40	78	150	100	78	150	100	165	284	140	165	284	140	190	294	140
	2	50	87	167	100	87	167	100	178	336	160	178	336	160	216	355	180
	2½	65	–	–	–	–	–	–	190	374	180	190	374	180	241	404	180
	3	80	–	–	–	–	–	–	203	444	200	203	444	200	283	472	225
	4	100	–	–	–	–	–	–	229	523	225	229	523	225	305	560	250
	5	125	–	–	–	–	–	–	254	606	250	254	606	250	381	626	300
	6	150	–	–	–	–	–	–	267	711	250	267	711	250	403	753	350
	8	200	–	–	–	–	–	–	292	924	300	292	924	300	419	968	400
	10	250	–	–	–	–	–	–	330	1126	350	330	1126	350	457	1177	450
	12	300	–	–	–	–	–	–	356	1336	400	356	1336	400	502	1378	500
	14	350	–	–	–	–	–	–	381	1486	450	381	1486	450	762	1590	600
	16	400	–	–	–	–	–	–	406	1690	600	406	1690	600	838	1810	600
	18	450	–	–	–	–	–	–	432	1890	600	432	1890	600	914	1980	680
	20	500	–	–	–	–	–	–	457	2100	680	457	2100	680	991	2190	760
	24	600	–	–	–	–	–	–	508	2460	760	508	2460	760	1143	2580	910
BODY			SCS14A			A351 Gr.CF8M			SCS13A			SCS14A			SCS13A		
BONNET			SCS14A			A351 Gr.CF8M			SCS13A			SCS14A			SCS13A		
STEM			SUS316			A276 TYPE316			SUS304			SUS316			SUS304		
DISC			SCS14A			A351 Gr.CF8M			SCS13A			SCS14A			SCS13A		
									Fig. 10UMAT : Gland Packing / PTFE			Fig. 10UMAMT : Gland Packing / PTFE			Fig. 20UMAT : Gland Packing / PTFE		



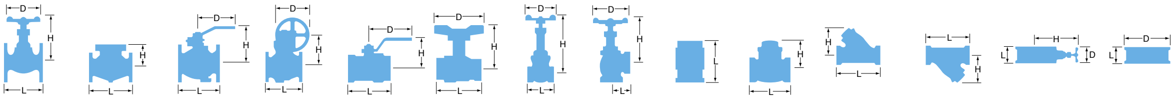
TYPE			A-SERIES GATE			A-SERIES GATE			A-SERIES GATE			A-SERIES GATE			A-SERIES GATE		
Stainless Steel																	
FIG			20UMAM / 20UMAMT			150UMA / 150UMAT			150UMAM / 150UMAMT			300UMA			300UMAM		
PRESSURE			20K			Class 150			Class 150			Class 300			Class 300		
END CONNECTION			JIS B2220			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	209	100	108	201	90	108	201	90	140	209	100	140	209	100
	¾	20	152	220	100	117	211	90	117	211	90	152	220	100	152	220	100
	1	25	165	239	100	127	224	100	127	224	100	165	239	100	165	239	100
	1½	40	190	294	140	165	284	140	165	284	140	190	294	140	190	294	140
	2	50	216	355	180	178	336	160	178	336	160	216	355	180	216	355	180
	2½	65	241	404	180	190	374	180	190	374	180	241	404	180	241	404	180
	3	80	283	472	225	203	444	200	203	444	200	283	472	225	283	472	225
	4	100	305	560	250	229	523	225	229	523	225	305	560	250	305	560	250
	5	125	381	626	300	254	606	250	254	606	250	381	626	300	381	626	300
	6	150	403	753	350	267	711	250	267	711	250	403	753	350	403	753	350
	8	200	419	968	400	292	924	300	292	924	300	419	968	400	419	968	400
	10	250	457	1177	450	330	1126	350	330	1126	350	457	1177	450	457	1177	450
	12	300	502	1378	500	356	1336	400	356	1336	400	502	1378	500	502	1378	500
	14	350	762	1590	600	381	1486	450	381	1486	450	762	1590	600	762	1590	600
	16	400	838	1810	600	406	1690	600	406	1690	600	838	1810	600	838	1810	600
	18	450	914	1980	680	432	1890	600	432	1890	600	914	1980	680	914	1980	680
	20	500	991	2190	760	457	2100	680	457	2100	680	991	2190	760	991	2190	760
	24	600	1143	2580	910	508	2460	760	508	2460	760	1143	2580	910	1143	2580	910
BODY			SCS14A			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
BONNET			SCS14A			A351 Gr.CF8			–			A351 Gr.CF8			A351 Gr.CF8M		
COVER			–			–			A351 Gr.CF8M			–			–		
STEM			SUS316			TYPE 304			TYPE 316			A276 TYPE 304			A276 TYPE 316		
DISC			SCS14A			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
			Fig. 20UMAMT : Gland Packing / PTFE			Fig. 150UMAT : Gland Packing / PTFE			Fig. 150UMAMT : Gland Packing / PTFE								

TYPE			A-SERIES GATE			A-SERIES GATE			HA-SERIES GATE			HA-SERIES GATE			HA-SERIES GATE		
Stainless Steel																	
FIG			600UMA			600UMAM			10UMHA/10UMHAT			10UMHAM/10UMHAMT			20UMHA/20UMHAT		
PRESSURE			600LB			600LB			10K			10K			20K		
END CONNECTION			ASME B16.5			ASME B16.5			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	165	210	100	165	210	100	108	216	100	108	216	100	140	207	100
	¾	20	190	224	100	190	224	100	117	220	100	117	220	100	152	217	100
	1	25	216	251	140	216	251	140	127	231	100	127	231	100	165	270	100
	1½	40	241	333	180	241	333	180	165	277	140	165	277	140	190	325	140
	2	50	292	451	200	292	451	200	178	335	160	178	335	160	216	356	180
	2½	65	330	482	225	330	482	225	190	373	180	190	373	180	241	405	180
	3	80	356	545	250	356	545	250	203	443	200	203	443	200	283	472	225
	4	100	432	676	350	432	676	350	229	522	225	229	522	225	305	560	250
	6	150	559	904	450	559	904	450	267	710	250	267	710	250	403	753	350
	8	200	660	1128	500	660	1128	500	292	924	300	292	924	300	419	968	400
	10	250	787	1329	600	787	1329	600	330	1125	350	330	1125	350	457	1177	450
	12	300	838	1521	680	838	1521	680	356	1328	400	356	1328	400	502	1378	500
	14	350	–	–	–	–	–	–	381	1491	450	381	1491	450	762	1590	600
	16	400	–	–	–	–	–	–	406	1692	600	406	1692	600	838	1750	600
	18	450	–	–	–	–	–	–	432	1889	600	432	1889	600	914	1930	680
	20	500	–	–	–	–	–	–	457	2102	680	457	2102	680	991	2140	760
	24	600	–	–	–	–	–	–	508	2484	760	508	2484	760	1143	2530	910
BODY			A351 Gr.CF8			A351 Gr.CF8			SCS13A			SCS14A			SCS13A		
BONNET			A351 Gr.CF8			A351 Gr.CF8			SCS13A			SCS14A			SCS13A		
STEM			A276 TYPE 304 / A351 Gr.CF8			A276 TYPE 316 / A351 Gr.CF8M			SUS304			SUS316			SUS304		
DISC			A351 Gr.CF8			A351 Gr.CF8			SCS13A			SCS14A			SCS13A		
									10UMHAT : Gland Packing / PTFE			10UMHAMT : Gland Packing / PTFE			20UMHAT : Gland Packing / PTFE		



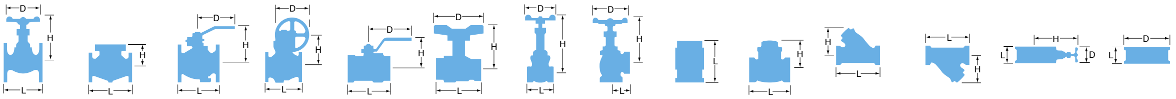
TYPE			HA-SERIES GATE			HA-SERIES GATE			HA-SERIES GATE			HA-SERIES GATE			HA-SERIES GATE		
Stainless Steel																	
FIG			20UMHAM/20UMHAMT			150UMHA/150UMHAT			150UMHAM/150UMHAMT			300UMHA			300UMHAM		
PRESSURE			20K			Class 150			Class 150			Class 300			Class 300		
END CONNECTION			JIS B2220			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	207	100	108	216	100	108	216	100	140	207	100	140	207	100
	¾	20	152	217	100	117	220	100	117	220	100	152	217	100	152	217	100
	1	25	165	270	100	127	231	100	127	231	100	165	270	100	165	270	100
	1½	40	190	325	140	165	277	140	165	277	140	190	325	140	190	325	140
	2	50	216	356	180	178	335	160	178	335	160	216	356	180	216	356	180
	2½	65	241	405	180	190	373	180	190	373	180	241	405	180	241	405	180
	3	80	283	472	225	203	443	200	203	443	200	283	472	225	283	472	225
	4	100	305	560	250	229	522	225	229	522	225	305	560	250	305	560	250
	6	150	403	753	350	267	710	250	267	710	250	403	753	350	403	753	350
	8	200	419	968	400	292	924	300	292	924	300	419	968	400	419	968	400
	10	250	457	1177	450	330	1125	350	330	1125	350	457	1177	450	457	1177	450
	12	300	502	1378	500	356	1328	400	356	1328	400	502	1378	500	502	1378	500
	14	350	762	1590	600	381	1491	450	381	1491	450	762	1590	600	762	1590	600
	16	400	838	1750	600	406	1692	600	406	1692	600	838	1750	600	838	1750	600
	18	450	914	1930	680	432	1889	600	432	1889	600	914	1930	680	914	1930	680
	20	500	991	2140	760	457	2102	680	457	2102	680	991	2140	760	991	2140	760
	24	600	1143	2530	910	508	2484	760	508	2484	760	1143	2530	910	1143	2530	910
BODY			SCS14A			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
BONNET			SCS14A			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
STEM			SUS316			TYPE 304			TYPE 316			TYPE 304			TYPE 316		
DISC			SCS14A			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
			20UMHAMT : Gland Packing / PTFE			150UMHAT : Gland Packing / PTFE			150UMHAMT : Gland Packing / PTFE								

TYPE			AJ-SERIES GATE			AJ-SERIES GATE			AJ-SERIES GATE			AJ-SERIES GATE			B-SERIES GLOBE		
Stainless Steel																	
FIG			10UMAJ			20UMAJ			150UMAJ			300UMAJ			UAB		
PRESSURE			10K			20K			Class 150			Class 300			5K		
END CONNECTION			JIS B2220			JIS B2220			ASME B16.5			ASME B16.5			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	–	–	–	–	–	–	–	–	–	73	106	70
	½	15	169	199	100	173	199	100	165	199	100	178	199	100	85	106	70
	¾	20	169	213	100	173	213	100	165	213	100	178	213	100	95	108	70
	1	25	177	232	100	181	232	100	177	232	100	190	232	100	108	119	80
	1¼	32	–	–	–	–	–	–	–	–	–	–	–	–	120	142	90
	1½	40	188	283	140	192	283	140	187	283	140	203	283	140	135	155	90
	2	50	201	322	160	270	353	180	203	322	160	283	353	180	155	186	115
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	80	217	447	200	289	470	225	229	447	200	305	470	225	–	–	–
	4	100	260	523	225	386	560	250	267	523	225	403	560	250	–	–	–
	5	125	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	6	150	279	710	250	434	753	350	292	710	250	457	753	350	–	–	–
BODY			SCS13A			SCS13A			A351 Gr.CF8			A351 Gr.CF8			SCS13A		
BONNET			SCS13A			SCS13A			A351 Gr.CF8			A351 Gr.CF8			SCS13A		
STEM			SUS304			SUS304			TYPE 304			TYPE 304			SUS304		
DISC			SCS13A			SCS13A			A351 Gr.CF8			A351 Gr.CF8			SUS304		
			Full Jacketed			Full Jacketed			Full Jacketed			Full Jacketed					



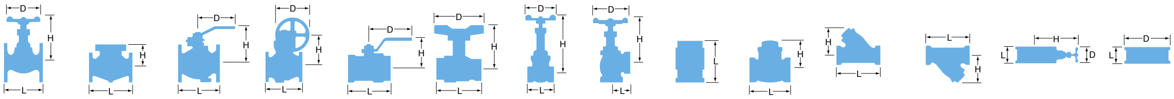
TYPE			B-SERIES GLOBE			B-SERIES GLOBE			B-SERIES GLOBE			B-SERIES GLOBE			B-SERIES GLOBE		
Stainless Steel																	
FIG			UCL			UCB			UD			UDM			UDB		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			BS21 (JIS B0203)			JIS B2220			BS21 (JIS B0203)			BS21 (JIS B0203)			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	44	68	55	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	48	68	55	73	106	70	55	109	60	55	109	60	–	–	–
	½	15	52	68	55	85	106	70	65	112	60	65	112	60	85	112	60
	¾	20	60	93	60	95	108	70	80	113	70	80	113	70	95	113	70
	1	25	72	100	70	108	119	80	90	143	90	90	143	90	110	143	90
	1¼	32	80	122	80	120	142	90	105	150	90	105	150	90	130	150	90
	1½	40	90	138	90	135	155	90	120	171	100	120	171	100	150	171	100
	2	50	100	153	100	155	186	115	140	189	115	140	189	115	180	189	115
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–	210	252	180
	3	80	–	–	–	–	–	–	–	–	–	–	–	–	240	277	225
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			SCS13A			SCS13A			SCS13A			SCS14A			SCS13A		
BONNET			SCS13A			SUS304			SCS13A			SCS14A			SCS13A		
STEM			SUS304			SUS304			SUS304			SUS316			SUS304		
DISC			SUS304			SUS304			PTFE			PTFE			PTFE		
									Soft-Seated disc			Soft-Seated disc			Soft-Seated disc		

TYPE			B-SERIES GLOBE			B-SERIES GLOBE			B-SERIES GLOBE			B-SERIES GLOBE			B-SERIES GLOBE		
Stainless Steel																	
FIG			UDBM			UJ			UJM			UJB			UJBM		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B2220			BS21 (JIS B0203)			BS21 (JIS B0203)			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	–	–	–	55	109	60	55	109	60	85	109	60	85	109	60
	½	15	85	112	60	65	111	60	65	111	60	85	111	60	85	111	60
	¾	20	95	113	70	80	112	70	80	112	70	95	112	70	95	112	70
	1	25	110	143	90	90	142	90	90	142	90	110	142	90	110	142	90
	1¼	32	130	150	90	105	150	90	105	150	90	130	150	90	130	150	90
	1½	40	150	171	100	120	171	100	120	171	100	150	171	100	150	171	100
	2	50	180	189	115	140	189	115	140	189	115	180	189	115	180	189	115
	2½	65	210	252	180	180	253	180	180	253	180	210	253	180	210	253	180
	3	80	240	277	225	200	280	225	200	280	225	240	280	225	240	280	225
BODY			SCS14A			SCS13A			SCS14A			SCS13A			SCS14A		
BONNET			SCS14A			SCS13A			SCS14A			SCS13A			SCS14A		
STEM			SUS316			SUS304			SUS316			SUS304			SUS316		
DISC			PTFE			SUS304 / SCS13A			SUS316 / SCS14A			SUS304 / SCS13A			SUS316 / SCS14A		
			Soft-Seated disc														



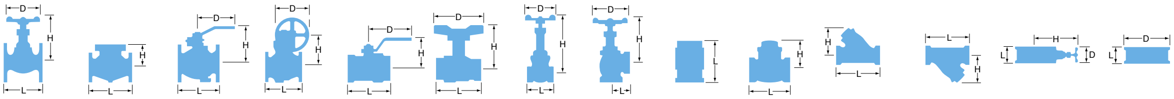
TYPE			A-SERIES GLOBE			A-SERIES GLOBE			A-SERIES GLOBE			A-SERIES GLOBE			A-SERIES GLOBE		
Stainless Steel																	
FIG			10UPA / G-10UPA / 10UPAT			10UPAM / G-10UPAM / 10UPAMT			20UPA / G-20UPA / 20UPAT			20UPAM / G-20UPAM / 20UPAMT			150UPA / G-150UPA / 150UPAT		
PRESSURE			10K			10K			20K			20K			Class 150		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	½	15	108	166	90	108	166	90	152	184	100	152	184	100	108	166	90
	¾	20	117	168	90	117	168	90	178	182	100	178	182	100	117	168	90
	1	25	127	173	100	127	173	100	203	185	100	203	185	100	127	173	100
	1¼	32	140	191	120	140	191	120	–	–	–	–	–	–	–	–	–
	1½	40	165	203	140	165	203	140	229	234	160	229	234	160	165	203	140
	2	50	203	234	160	203	234	160	267	286	180	267	286	180	203	234	160
	2½	65	216	247	180	216	247	180	292	295	200	292	295	200	216	247	180
	3	80	241	292	200	241	292	200	318	341	250	318	341	250	241	292	200
	4	100	292	324	225	292	324	225	356	396	300	356	396	300	292	324	225
	5	125	356	381	250	356	381	250	400	492	350	400	492	350	356	381	250
	6	150	406	452	350	406	452	350	444	563	400	444	563	400	406	452	350
	8	200	495	556	400	495	556	400	559	874	500	–	874	–	495	556	400
	10	250	622	923	500	622	923	500	622	1048	600	–	1048	–	622	923	500
	12	300	698	1013	500	698	1013	500	–	–	–	–	–	–	698	1013	500
BODY			SCS13A			SCS14A			SCS13A			SCS14A			A351 Gr.CF8		
BONNET			SCS13A			SCS14A			SCS13A			SCS14A			A351 Gr.CF8		
STEM			SUS304			SUS316			SUS304			SUS316			A276 TYPE304		
DISC			SCS13A			SUS316 / SCS14A			SUS304 / SCS13A			SUS316			A351 Gr.CF8		
			Fig. 10UPAT : Gland Packing / PTFE SIZE.10 &12 Gear operation type			Fig. 10UPAMT : Gland Packing / PTFE SIZE.10 &12 Gear operation type			Fig. 20UPAT : Gland Packing / PTFE SIZE.8 &10 Gear operation type			Fig. 20UPAMT : Gland Packing / PTFE SIZE.8 &10 Gear operation type			Fig. 150UPAT : Gland Packing / PTFE SIZE.10 &12 Gear operation type		

TYPE			A-SERIES GLOBE			A-SERIES GLOBE			A-SERIES GLOBE			A-SERIES GLOBE			A-SERIES GLOBE		
Stainless Steel																	
FIG			150UPAM / G-150UPAMT / 150UPAMT			300UPA / G-300UPA			300UPAM / G-300UPAM			600UPA			600UPAM		
PRESSURE			Class 150			Class 300			Class 300			600LB			600LB		
END CONNECTION			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	½	15	108	166	90	152	184	100	152	184	100	165	212	120	165	212	120
	¾	20	117	168	90	178	182	100	178	182	100	190	209	120	190	209	120
	1	25	127	173	100	203	185	100	203	185	100	216	245	160	216	245	160
	1¼	32	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	1½	40	165	203	140	229	234	160	229	234	160	241	282	200	241	282	200
	2	50	203	234	160	267	286	180	267	286	180	292	373	225	292	373	225
	2½	65	216	247	180	292	295	200	292	295	200	330	411	250	330	411	250
	3	80	241	292	200	318	341	250	318	341	250	356	491	350	356	491	350
	4	100	292	324	225	356	396	300	356	396	300	432	584	400	432	584	400
	5	125	356	381	250	400	492	350	400	492	350	–	–	–	–	–	–
	6	150	406	452	350	444	563	400	444	563	400	–	–	–	559	742	600
	8	200	495	556	400	559	874	500	559	874	500	–	–	–	–	–	–
	10	250	622	923	500	622	1048	600	622	1048	600	–	–	–	–	–	–
	12	300	698	1013	500	–	–	–	–	–	–	–	–	–	–	–	–
BODY			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
BONNET			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
STEM			A276 TYPE316			A276 TYPE304 / TYPE304			A276 TYPE316 / TYPE316			A276 TYPE304			A276 TYPE316		
DISC			A276 TYPE316			A276 TYPE304 / A351 Gr.CF8			A351 Gr.CF8M			A276 TYPE304			A276 TYPE316		
			Fig. 150UPAMT : Gland Packing / PTFE SIZE.10 &12 Gear operation type			SIZE.8 &10 Gear operation type			SIZE.8 &10 Gear operation type								



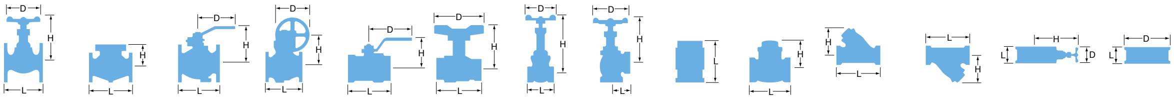
TYPE			AJ-SERIES GLOBE			AJ-SERIES GLOBE			AJ-SERIES GLOBE			AJ-SERIES GLOBE			A-SERIES GLOBE		
Stainless Steel																	
FIG			10UPAJ			20UPAJ			150UPAJ			300UPAJ			10UPAW		
PRESSURE			10K			20K			Class 150			Class 300			10K		
END CONNECTION			JIS B2220			JIS B2220			ASME B16.5			ASME B16.5			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	156	186	100	160	186	100	152	186	100	165	186	100	108	166	90
	¾	20	156	186	100	160	186	100	152	186	100	165	186	100	117	166	90
	1	25	190	187	100	194	187	100	190	187	100	203	187	100	127	169	100
	1½	40	214	236	160	218	236	160	213	236	160	229	236	160	165	201	140
	2	50	239	237	160	254	289	180	241	237	160	267	289	180	203	231	160
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–	216	244	180
	3	80	280	293	200	302	343	250	292	293	200	318	343	250	241	283	200
	4	100	349	326	225	339	398	300	356	326	225	356	398	300	292	363	225
	5	125	–	–	–	–	–	–	–	–	–	–	–	–	356	425	250
	6	150	–	–	–	–	–	–	–	–	–	–	–	–	406	482	350
BODY			SCS13A			SCS13A			A351 Gr.CF8			A351 Gr.CF8			SCS13A		
BONNET			SCS13A			SCS13A			A351 Gr.CF8			A351 Gr.CF8			SCS13A		
STEM			SUS304			SUS304			TYPE304			TYPE304			SUS304		
DISC			SCS13A			SUS304			TYPE304			TYPE304			SUS316 / SCS14A		
			Full Jacketed			Full Jacketed			Full Jacketed			Full Jacketed			Bellows seal globe valve		

TYPE			A-SERIES GLOBE			A-SERIES GLOBE			A-SERIES GLOBE			A-SERIES GLOBE			A-SERIES GLOBE		
Stainless Steel																	
FIG			10UPAWM			20UPAW			20UPAWM			150UPAW			150UPAWM		
PRESSURE			10K			20K			20K			Class 150			Class 150		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	166	90	152	184	100	152	184	100	108	166	90	108	166	90
	¾	20	117	166	90	178	184	100	178	184	100	117	166	90	117	166	90
	1	25	127	169	100	203	185	100	203	185	100	127	169	100	127	169	100
	1½	40	165	201	140	229	234	160	229	234	160	165	201	140	165	201	140
	2	50	203	231	160	267	287	180	267	287	180	203	231	160	203	231	160
	2½	65	216	244	180	292	293	200	292	293	200	216	244	180	216	244	180
	3	80	241	283	200	318	402	250	318	402	250	241	283	200	241	283	200
	4	100	292	363	225	356	453	300	356	453	300	292	363	225	292	363	225
	5	125	356	425	250	400	538	350	400	538	350	356	425	250	356	425	250
	6	150	406	482	350	444	606	400	444	606	400	406	482	350	406	482	350
BODY			SCS14A			SCS13A			SCS14A			A351 Gr.CF8			A351 Gr.CF8M		
BONNET			SCS14A			SCS13A			SCS14A			A351 Gr.CF8			A351 Gr.CF8M		
STEM			SUS304			SUS304			SUS304			TYPE304			A276 TYPE304		
DISC			SUS316 / SCS14A			SUS316 / SCS14A			SUS316 / SCS14A			TYPE316 / A351 Gr.CF8M			A276 TYPE316 / A351 Gr.CF8M		
			Bellows seal globe valve			Bellows seal globe valve			Bellows seal globe valve			Bellows seal globe valve			Bellows seal globe valve		



TYPE			A-SERIES GLOBE			A-SERIES GLOBE			B-SERIES LIFT CHECK			B-SERIES SWING CHECK			B-SERIES SWING CHECK		
Stainless Steel																	
FIG			300UPAW			300UPAWM			UN			UO			UOM		
PRESSURE			Class 300			Class 300			10K			10K			10K		
END CONNECTION			ASME B16.5			ASME B16.5			BS21 (JIS B0203)			JIS B2220			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	–	–	–	–	–	–	55	50	24	–	–	–	–	–	–
	½	15	152	184	100	152	184	100	65	53	29	65	45	29	65	45	29
	¾	20	178	184	100	178	184	100	80	54	35	80	55	35	80	55	35
	1	25	203	185	100	203	185	100	90	62	43	90	61	44	90	61	44
	1¼	32	–	–	–	229	234	160	105	66	53	105	71	53	105	71	53
	1½	40	229	234	160	267	287	180	120	76	59	120	72	59	120	72	59
	2	50	267	287	180	292	293	200	140	85	74	140	81	73	140	81	73
	2½	65	292	293	200	318	402	250	–	–	–	180	93	89	180	93	89
	3	80	318	402	250	356	453	300	–	–	–	200	104	104	200	104	104
	4	100	356	453	300	400	538	350	–	–	–	–	–	–	–	–	–
	5	125	400	538	350	444	606	400	–	–	–	–	–	–	–	–	–
	6	150	444	606	400	–	–	–	–	–	–	–	–	–	–	–	–
BODY			A351 Gr.CF8			A351 Gr.CF8M			SCS13A			SCS13A			SCS14A		
CAP			A351 Gr.CF8			A351 Gr.CF8M			–			CF8 / TYPE 304			CF8M / TYPE316		
COVER			–			–			CF8 / TYPE 304			–			–		
DISC			TYPE304			A276 TYPE304			–			SCS13A			SCS14A		
HINGE PIN			TYPE316 / A351 Gr.CF8M			A276 TYPE316 / A351 Gr.CF8M			SCS13A / SUS304			SUS304			SUS316		
			Bellows seal globe valve			Bellows seal globe valve											

TYPE			B-SERIES SWING CHECK			B-SERIES SWING CHECK			A-SERIES LIFT CHECK			A-SERIES LIFT CHECK			A-SERIES LIFT CHECK		
Stainless Steel																	
FIG			UOB			UOBM			10UNA / 10UNAT			10UNAM / 10UNAMT			20UNA / 20UNAT		
PRESSURE			10K			10K			10K			10K			20K		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	½	15	85	45	95	85	45	95	108	74	95	108	74	95	152	73	95
	¾	20	95	55	100	95	55	100	117	76	100	117	76	100	178	73	100
	1	25	110	61	125	110	61	125	127	76	125	127	76	125	203	73	125
	1¼	32	130	71	135	130	71	135	140	84	135	140	84	135	–	–	–
	1½	40	150	72	140	150	72	140	165	86	140	165	86	140	229	90	140
	2	50	180	81	155	180	81	155	–	–	–	–	–	–	–	–	–
	2½	65	210	93	175	210	93	175	–	–	–	–	–	–	–	–	–
	3	80	240	104	185	240	104	185	–	–	–	–	–	–	–	–	–
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	5	125	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	6	150	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			SCS13A			SCS14A			SCS13A			SCS14A			SCS13A		
CAP			CF8 / TYPE 304			CF8M / TYPE316			–			SCS14A			SCS13A		
COVER			–			–			SCS13A			–			–		
DISC			SCS13A			SCS14A			SUS304			SUS316			SUS304		
HINGE PIN			SUS304			SUS316			–			–			–		
									Fig. 10UNAT : Gasket / PTFE			Fig. 10UNAMT : Gasket / PTFE			Fig. 20UNAT : Gasket / PTFE		

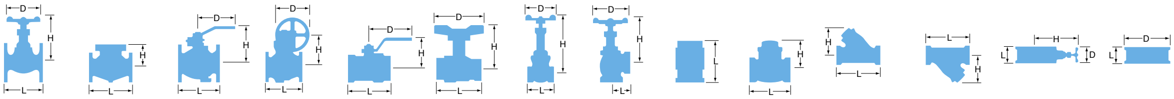


TYPE			A-SERIES LIFT CHECK			A-SERIES LIFT CHECK			A-SERIES LIFT CHECK			A-SERIES LIFT CHECK			A-SERIES LIFT CHECK		
Stainless Steel																	
FIG			20UNAM / 20UNAMT			150UNA / 150UNAT			150UNAM			300UNA			300UNAM		
PRESSURE			20K			Class 150			Class 150			Class 300			Class 300		
END CONNECTION			JIS B2220			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	152	73	95	108	74	89	108	74	89	152	73	95	152	73	95
	¾	20	178	73	100	117	76	98	117	76	98	178	73	117	178	73	117
	1	25	203	73	125	127	76	108	127	76	108	203	73	124	203	73	124
	1¼	32	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	1½	40	229	90	140	165	86	127	165	86	127	229	90	156	229	90	156
BODY			SCS14A			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
COVER			SCS14A			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
STEM			–			–			–			–			–		
DISC			SUS316			TYPE304			A276 TYPE316			A276 TYPE304			A276 TYPE316		
			Fig. 20UNAMT : Gasket / PTFE			Fig. 150UNAT : Gasket / PTFE			Fig. 10UOAT : Gasket / PTFE								

TYPE			A-SERIES SWING CHECK			A-SERIES SWING CHECK			A-SERIES SWING CHECK			A-SERIES SWING CHECK			A-SERIES SWING CHECK		
Stainless Steel																	
FIG			10UOA / 10UOAT			10UOAM / 10UOAMT			20UOA / 20UOAT			20UOAM / 20UOAMT			150UOA / 150UOAT		
PRESSURE			10K			10K			20K			20K			Class 150		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	165	111	140	165	111	140	241	121	140	241	121	140	165	111	127
	2	50	203	121	155	203	121	155	267	143	155	267	143	155	203	121	152
	2½	65	216	134	175	216	134	175	292	163	175	292	163	175	216	134	178
	3	80	241	148	185	241	148	185	318	178	200	318	178	200	241	148	190
	4	100	292	162	210	292	162	210	356	201	225	356	201	225	292	162	229
	5	125	330	192	250	330	192	250	400	231	270	400	231	270	330	192	254
	6	150	356	217	280	356	217	280	444	259	305	444	259	305	356	217	279
	8	200	495	264	330	495	264	330	533	292	350	533	292	350	495	264	343
	10	250	622	287	400	622	287	400	622	356	430	622	356	430	622	287	406
	12	300	698	315	445	698	315	445	711	373	480	711	373	480	698	315	483
	14	350	787	363	490	787	363	490	–	–	–	–	–	–	787	363	533
	16	400	864	407	560	864	407	560	–	–	–	–	–	–	864	407	597
BODY			SCS13A			SCS14A			SCS13A			SCS14A			SCS13A		
COVER			SCS13A			SCS14A			SCS13A			SCS14A			SCS13A		
STEM			–			–			–			–			–		
DISC			SUS13A			SCS14A			SCS13A			SCS14A			SCS13A		
HINGE PIN			SUS304			SUS316			SUS304			SUS316			SUS304		
			Fig. 10UOAT : Gasket / PTFE			Fig. 10UOAMT : Gasket / PTFE			Fig. 20UOAT : Gasket / PTFE			Fig. 10UOAMT : Gasket / PTFE			Fig. 20UOAT : Gasket / PTFE		

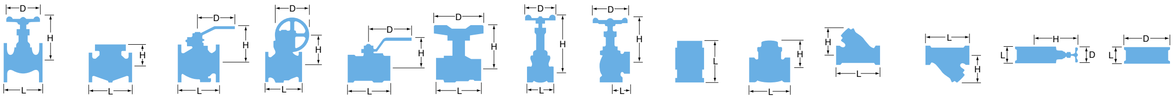
TYPE			A-SERIES SWING CHECK			A-SERIES SWING CHECK			A-SERIES SWING CHECK			A-SERIES SWING CHECK			A-SERIES SWING CHECK		
Stainless Steel																	
FIG			150UOAM / 150UOAMT			300UOA			300UOAM			600UOA			600UOAM		
PRESSURE			Class 150			Class 300			Class 300			600LB			600LB		
END CONNECTION			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	–	–	–	–	–	–	–	–	–	165	90	95	165	90	95
	¾	20	–	–	–	–	–	–	–	–	–	190	96	117	190	96	117
	1	25	–	–	–	–	–	–	–	–	–	216	109	124	216	109	124
	1½	32	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	1½	40	165	111	127	241	121	156	241	121	156	241	126	156	241	126	156
	2	50	203	121	152	267	143	165	267	143	165	292	189	165	292	189	165
	2½	65	216	134	178	292	163	190	292	163	190	330	213	190	330	213	190
	3	80	241	148	190	318	178	210	318	178	210	356	239	210	356	239	210
	4	100	292	162	229	356	201	254	356	201	254	432	279	273	432	279	273
	5	125	330	192	254	400	231	279	400	231	279	–	–	–	–	–	–
	6	150	356	217	279	444	259	318	444	259	318	559	339	356	559	339	356
	8	200	495	264	343	533	292	381	533	292	381	660	414	419	660	414	419
	10	250	622	287	406	622	356	444	622	356	444	–	430	–	–	430	–
	12	300	698	315	483	711	373	521	711	373	521	838	477	508	838	477	508
	14	350	787	363	533	–	–	–	–	–	–	–	–	–	–	–	–
	16	400	864	407	597	–	–	–	–	–	–	–	–	–	–	–	–
BODY			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
COVER			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
STEM			–			–			–			–			–		
DISC			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
HINGE PIN			TYPE316			A276 TYPE304			A276 TYPE316			TYPE304			TYPE316		
			Fig. 150UOAMT : Gasket / PTFE														

TYPE			WAFER CHECK			WAFER CHECK		
Stainless Steel								
FIG			10UW			10UWS		
PRESSURE			10K			10K		
END CONNECTION			Wafer Type			Wafer Type		
DIMENSIONS	inch	mm	L	H	D	L	H	D
	½	15	–	–	–	–	–	–
	¾	20	–	–	–	–	–	–
	1	25	–	–	–	–	–	–
	1½	32	–	–	–	–	–	–
	1½	40	–	–	–	–	–	–
	2	50	60	147	60	60	147	60
	2½	65	67	155	60	67	155	60
	3	80	73	163	60	73	163	60
	4	100	73	175	60	73	175	60
	5	125	89	189	70	89	189	70
	6	150	98	202	70	98	202	70
	8	200	127	229	70	127	229	70
	10	250	146	280	90	146	280	90
	12	300	181	307	90	181	307	90
BODY			SCS13A+NBR			SCS13A		
COVER			–			–		
STEM			–			–		
DISC			SCS13A			SCS13A		
HINGE PIN			SUS304			SUS304		



TYPE			AJ-SERIES LIFT CHECK			AJ-SERIES LIFT CHECK			AJ-SERIES LIFT CHECK			AJ-SERIES LIFT CHECK			AJ-SERIES LIFT CHECK		
Stainless Steel																	
FIG			10UNAJ			10UNAJM			20UNAJ			150UNAJ			300UNAJ		
PRESSURE			10K			10K			20K			Class 150			Class 300		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	156	73	140	156	73	140	160	73	140	152	73	127	165	73	156
	¾	20	156	73	140	156	73	140	160	73	140	152	73	127	165	73	156
	1	25	190	73	155	190	73	155	194	73	155	190	73	152	203	73	165
	1½	40	214	90	175	214	90	175	218	90	175	213	90	178	229	90	190
BODY			SCS13A			SCS14A			SCS13A			A351 Gr.CF8			A351 Gr.CF8		
BONNET			SCS13A			SCS14A			SCS13A			A351 Gr.CF8			A351 Gr.CF8		
STEM			–			–			–			–			–		
DISC			SUS304			SUS316			SUS304			A276 TYPE316			TYPE304		
			Full Jacketed			Full Jacketed			Full Jacketed			Full Jacketed			Full Jacketed		

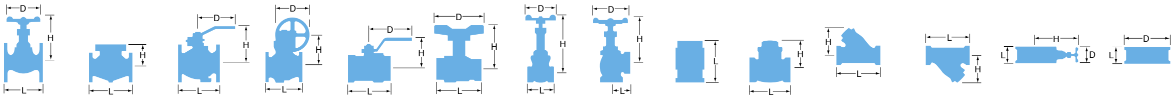
TYPE			AJ-SERIES SWING CHECK			AJ-SERIES SWING CHECK			AJ-SERIES SWING CHECK			AJ-SERIES SWING CHECK		
Stainless Steel														
FIG			10UOAJ			20UOAJ			150UOAJ			300UOAJ		
PRESSURE			10K			20K			Class 150			Class 300		
END CONNECTION			JIS B2220			JIS B2220			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	–	–	–	–	–	–	–	–	–
	2	50	239	122	185	254	146	200	241	122	190	267	146	210
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–
	3	80	280	149	210	314	180	225	292	149	229	330	180	254
	4	100	349	171	280	383	200	305	356	171	279	400	200	318
	6	150	393	214	330	421	255	350	406	214	343	444	255	381
	8	200	–	–	–	–	–	–	–	–	–	–	–	–
BODY			SCS13A			SCS13A			A351 Gr.CF8			A351 Gr.CF8		
COVER			SCS13A			SCS13A			A351 Gr.CF8			A351 Gr.CF8		
STEM			–			–			–			–		
DISC			SCS13A			SCS13A			A351 Gr.CF8			A351 Gr.CF8		
HINGE PIN			SUS304			SUS304			TYPE304			TYPE304		
			Full Jacketed			Full Jacketed			Full Jacketed			Full Jacketed		



Bronze & Brass
Cast Iron
Ductile Iron
Stainless Steel
Carbon Steel
Butterfly Valve
Ball Valve
Ball Valve Seat
Actuated Valve

TYPE			BALL CHECK			BALL CHECK			B-SERIES Y TYPE STRAINER			B-SERIES Y TYPE STRAINER			B-SERIES Y TYPE STRAINER		
Stainless Steel																	
FIG			10UFT			10UFTE			UY			UYM			UYB		
PRESSURE			10K			10K			20K			20K			10K		
END CONNECTION			JIS B2220			JIS B2220			BS21 (JIS B0203)			BS21 (JIS B0203)			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	65	50	21	65	50	21	–	–	–
	⅜	10	–	–	–	–	–	–	70	50	23	70	50	23	110	50	90
	½	15	–	–	–	–	–	–	85	60	29	85	60	29	120	58	95
	¾	20	–	–	–	–	–	–	100	65	35	100	65	35	130	66	100
	1	25	–	–	–	–	–	–	115	77	43	115	77	43	150	78	125
	1¼	32	–	–	–	–	–	–	135	90	54	135	90	54	170	93	135
	1½	40	190	87	140	–	–	–	150	100	61	150	100	61	190	104	140
	2	50	200	100.5	155	200	100.5	155	180	115	73	180	115	73	220	122	155
	2½	65	220	123.5	175	220	123.5	175	220	150	90	220	150	90	–	–	–
	3	80	240	150	185	240	150	185	250	193	105	250	193	105	–	–	–
	4	100	290	187	210	290	187	210	–	–	–	–	–	–	–	–	–
	6	150	410	275	280	410	275	280	–	–	–	–	–	–	–	–	–
	8	200	–	–	–	500	366	330	–	–	–	–	–	–	–	–	–
BODY			CF8			CF8			SCS13A			SCS14A			SCS13A		
COVER			CF8			CF8			–			–			–		
CAP			–			–			CF8 / TYPE 304			CF8M / TYPE316			CF8 / TYPE 304		
DISC			NBR			NBR			–			–			–		
SCREEN			–			–			SUS304			SUS316			SUS304		

TYPE			B-SERIES Y TYPE STRAINER			A-SERIES Y TYPE STRAINER			A-SERIES Y TYPE STRAINER			A-SERIES Y TYPE STRAINER		
Stainless Steel														
FIG			UYBM			10UYA			10UYAM			20UYA		
PRESSURE			10K			10K			10K			20K		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	110	50	90	–	–	–	–	–	–	–	–	–
	½	15	120	58	95	–	–	–	–	–	–	160	70	95
	¾	20	130	66	100	–	–	–	–	–	–	160	80	100
	1	25	150	78	125	–	–	–	–	–	–	190	92	125
	1¼	32	170	93	135	–	–	–	–	–	–	–	–	–
	1½	40	190	104	140	–	–	–	–	–	–	240	125	140
	2	50	220	122	155	–	–	–	–	–	–	250	150	155
	2½	65	–	–	–	270	160	175	270	160	175	300	160	175
	3	80	–	–	–	290	197	185	290	197	185	320	197	200
	4	100	–	–	–	350	233	210	350	233	210	380	246	225
	5	125	–	–	–	390	267	250	390	267	250	–	–	–
	6	150	–	–	–	440	320	280	440	320	280	550	342	305
	8	200	–	–	–	540	380	330	540	380	330	600	430	350
	10	250	–	–	–	760	538	440	760	538	440	760	538	430
	12	300	–	–	–	870	635	445	870	635	445	870	635	480
BODY			SCS14A			SCS13A			CF8M			SCS13A		
CAP			CF8M / TYPE316			–			–			–		
COVER			–			SCS13A			CF8M			SCS13A		
DISC			–			–			–			–		
SCREEN			SUS316			SUS304			TYPE316			SUS304		



TYPE		NEEDLE			NEEDLE			NEEDLE			NEEDLE			NEEDLE		
mm., Series																
FIG		UN3-AP-			UN3-BP-			UN3-CP-			UN3-DP-			UN3-EP-		
PRESSURE		30K			30K			30K			30K			30K		
END CONNECTION		BS21 (JIS B0203)			BS21 (JIS B0203)			COUPLE LOK			COUPLE LOK			JIS B0203 / COUPLE LOK		
DIMENSIONS	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	6	40	59	40	15	59	40	60.8	59	40	30.4	59	40	55.4	59	40
	8	40	59	40	15	59	40	60.8	59	40	30.4	59	40	55.4	59	40
	10	45	64	40	18	64	40	62.4	64	40	–	–	–	56.2	64	40
	10	–	–	–	–	–	–	–	–	–	–	–	–	56.2	64	40
	12	55	79	50	–	–	–	70.2	64	40	–	–	–	60.1	64	40
	12	–	–	–	–	–	–	–	–	–	–	–	–	60.1	64	40
BODY		SUS 316			SUS 316			SUS 316			SUS 316			SUS 316		
STEM		SUS630			SUS630			SUS630			SUS630			SUS630		
FIG		Rc1/8^{B} : UN3-AP-1 Rc1/4^{B} : UN3-AP-2 Rc3/8^{B} : UN3-AP-3 Rc1/2^{B} : UN3-AP-4			Rc1/8^{B} : UN3-BP-1 Rc1/4^{B} : UN3-BP-2 Rc3/8^{B} : UN3-BP-3			6mm : UN3-CP-6 8mm : UN3-CP-8 10mm : UN3-CP-10 12mm : UN3-CP-12			6mm : UN3-DP-6 8mm : UN3-DP-8			6mm×R1/4^{B} : UN3-EP-6-2 8mm×R1/4^{B} : UN3-EP-8-2 10mm×R1/4^{B} : UN3-EP-10-2 10mm×R3/8^{B} : UN3-EP-10-3 12mm×R1/4^{B} : UN3-EP-12-2 12mm×R3/8^{B} : UN3-EP-12-3		

TYPE		NEEDLE			NEEDLE			NEEDLE			NEEDLE		
mm., Series													
FIG		UN3-FP-			UN26-AP-			UN26-CP-			UN26-SP-		
PRESSURE		30K			260K			260K			260K		
END CONNECTION		JIS B0203 / COUPLE LOK			BS21 (JIS B0203)			COUPLE LOK			JIS B2316		
DIMENSIONS	mm	L	H	D	L	H	D	L	H	D	L	H	D
	6	30.4	59	40	48	69	40	64.8	69	40	60	69	40
	8	30.4	59	40	48	69	40	64.8	69	40	60	69	40
	10	31.2	64	40	55	82	70	68.4	83	50	65	82	70
	12	35.1	64	40	–	–	–	74.7	83	50	–	–	–
	15	–	–	–	60	87	70	–	–	–	75	87	70
	20	–	–	–	70	104	85	–	–	–	85	104	85
	25	–	–	–	85	122	85	–	–	–	100	122	85
BODY		SUS 316			SUS 316			SUS 316			SUS 316		
STEM		SUS630			SUS630			SUS630			SUS630		
FIG		6mm×R1/4^{B} : UN3-FP-6-2 8mm×R1/4^{B} : UN3-FP-8-2 10mm×R1/4^{B} : UN3-FP-10-2 10mm×R3/8^{B} : UN3-FP-10-3 12mm×R1/4^{B} : UN3-FP-12-2 12mm×R3/8^{B} : UN3-FP-12-3			Rc1/8^{B} : UN26-AP-1 Rc1/4^{B} : UN26-AP-2 Rc3/8^{B} : UN26-AP-3 Rc1/2^{B} : UN26-AP-4 Rc3/4^{B} : UN26-AP-5 Rc1^{B} : UN26-AP-6			6mm : UN26-CP-6 8mm : UN26-CP-8 10mm : UN26-CP-10 12mm : UN26-CP-12			1/8^{B} : UN26-SP-1 1/4^{B} : UN26-SP-2 3/8^{B} : UN26-SP-3 1/2^{B} : UN26-SP-4 3/4^{B} : UN26-SP-5 1^{B} : UN26-SP-6		

TYPE			NEEDLE			NEEDLE			NEEDLE			NEEDLE			NEEDLE		
Inch Series																	
FIG			UN3-CP-			UN3-DP-			UN3-EP-			UN3-FP-			UN26-CP-		
PRESSURE			30K			30K			30K			30K			260K		
END CONNECTION			COUPLE LOK			COUPLE LOK			JIS B0203 / COUPLE LOK			JIS B0203 / COUPLE LOK			COUPLE LOK		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1/8	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	1/4	8	60.8	59	40	30.4	59	40	55.4	59	40	30.4	59	40	64.8	69	40
	3/8	10	62.4	64	40	–	–	–	56.2	64	40	31.2	64	40	68.4	83	50
	3/8	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	1/2	15	70.2	64	40	–	–	–	–	–	–	–	–	–	74.7	83	50
BODY			SUS 316			SUS 316			SUS 316			SUS 316			SUS 316		
STEM			SUS630			SUS630			SUS630			SUS630			SUS630		
FIG			1/4^{OD} : UN3-CP-02 3/8^{OD} : UN3-CP-03 1/2^{OD} : UN3-CP-04			1/4^{OD} : UN3-DP-02			1/4^{OD}×R1/4^{B} : UN3-EP-02-2 3/8^{OD}×R1/4^{B} : UN3-EP-03-2 3/8^{OD}×R3/8^{B} : UN3-EP-03-3			1/4^{OD}×R1/4^{B} : UN3-FP-02-2 3/8^{OD}×R1/4^{B} : UN3-FP-03-2 3/8^{OD}×R3/8^{B} : UN3-FP-03-3			1/4^{OD} : UN26-CP-02 3/8^{OD} : UN26-CP-03 1/2^{OD} : UN26-CP-04		

KITZ

GENERAL CATALOG

CARBON STEEL

Carbon Steel

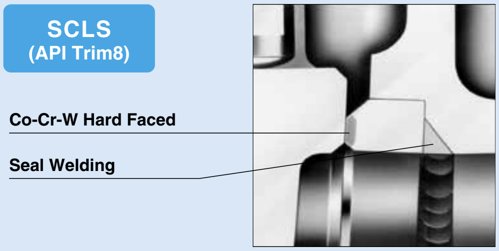
General Design Specifications

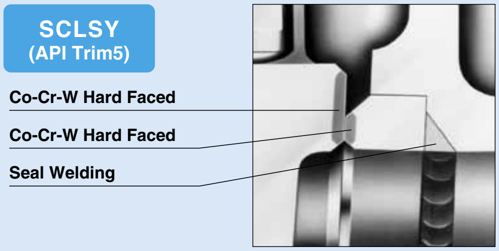
Items	American Std.	British Std.
Shell wall thickness and general valve design	API 600	BS 1414 (Gate valve) BS 1873 (Globe valve) BS 1868 (Check valve)
Pressure-temperature ratings	ASME B16.34	BS 1560
Face to face dimensions End to end dimensions	ASME B16.10	BS 2080
End flange dimensions Gasket contact facing	ASME B16.5*	BS 1560
Welding end dimensions	ASME B16.25	BS 1414 (Gate valve) BS 1873 (Globe valve) BS 1868 (Check valve)

*MSS SP-44 for Nominal size 22^B and ASME B16.47 Series B for Nominal size 26^B and larger, for end flange dimensions.

Mounting of Body Seat Rings

Body seat rings of KITZ cast steel valves are mounted on the valve body by seal welding, as shown in the typical examples of gate valves illustrated below. Unless specifically requested in advance, mounting of body seat rings shall be performed at the manufacturer's discretion. Specify your own method of mounting, noting your purchase orders with the appropriate KITZ product code numbers.





For KITZ cast steel valves made of ASTM A216 WCB, the standard shell material, disc seats, and body seat rings shall be provided as follows. (Refer to Page 47 for Product Coding)

KITZ Product Code	Standard Disc Seat	Standard Body Seat	Mounting of Body Seat Rings
SCLS (Gate) SCJS (Globe) SCOS (Check)	F6a or WCB + 13Cr or A105 + 13Cr or CA15	A105 + HF* or A106 Gr. B + HF* or AISI 1022 + HF* or Direct HF**	Seal Welded or Direct HF**
SCLSY (Gate) SCJSY (Globe) SCOSY (Check)	A105 + HF* or WCB + HF* or CA15 + HF*	A105 + HF* or A106 Gr. B + HF* or AISI 1022 + HF* or Direct HF**	Seal Welded or Direct HF**

* Co-Cr-W Alloy deposited for hard facing.
** Co-Cr-W Alloy is directly deposited on valve body for hard facing.
KITZ Product Code 900SCJS, 900SCJSY, 1500SCJS, 1500SCJSY, 2500SCJS and 2500SCJSY globe valves employ this hard facing.

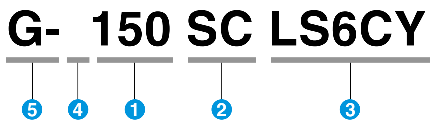
Bonnet Gasket Materials

Depending on the class ratings and servicing conditions, the following gasket materials are available for the body/bonnet flange gaskets of KITZ cast steel valves. Specify your gasket material in the purchase order.

Gasket Material	Class					
	150	300	600	900	1500	2500
Corrugated metal with flexible graphite	●					
Ring joint metal			●	●	●	●
Spiral wound metal, flexible graphite filled		●				
Stainless steel inserted flexible graphite	●					

Please refer to our website (www.kitz.co.jp) or contact KITZ for details.

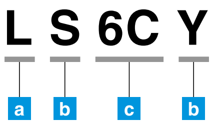
Product Coding



① **ASME pressure class:**
150 through 2500

② **Shell material code:**
Carbon and low alloy steel are always identified as “SC”

③ **Other valve specifications:**



a Valve type code:
L... Gate valve
J... Globe valve
O... Swing check valve

b Seat material/mounting:

Code	Disc Seat Material	Body Seat Material	Type of Mounting
S☐	13Cr	HF	Refer to Page 46
S☐Y	HF	HF	

☐: Special shell material code

c Special shell material:
No code is required for WCB.

④ **Type of end connection:**
No code is required for RF-flanged ends
W... Butt-welding ends.

⑤ **Type of valve operation:**
No code is required for manual handwheel operation.
G ... Gear operation.
E ... Electric actuator operation.

Please refer to our website (www.kitz.co.jp) or contact KITZ for details.

TYPE			GATE			GATE			GATE			GATE			GLOBE		
Carbon Steel																	
FIG			10SCLS			20SCLS			150SCLS			300SCLS			10SCJS		
PRESSURE			10K			20K			Class 150			Class 300			10K		
END CONNECTION			JIS B2220			JIS B2220			ASME B16.5			ASME B16.5			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	–	–	–	165	385	200	190	413	200	–	–	–
	2	50	178	385	200	216	413	200	178	385	200	216	413	200	203	331	200
	2½	65	190	432	200	241	456	200	190	432	200	241	456	200	216	379	250
	3	80	203	509	250	283	530	250	203	509	250	283	530	250	241	389	250
	4	100	229	592	250	305	618	250	229	592	250	305	618	250	292	458	250
	5	125	254	658	300	381	694	300	254	658	300	381	694	300	356	484	300
	6	150	267	758	300	403	793	350	267	758	300	403	793	350	406	513	350
	8	200	292	958	350	419	1014	400	292	958	350	419	1014	400	–	–	–
	10	250	330	1162	400	457	1216	450	330	1162	400	457	1216	450	–	–	–
	12	300	356	1362	450	502	1458	600	356	1362	450	502	1458	600	–	–	–
	14	350	381	1572	600	762	1563	600	381	1572	600	762	1563	600	–	–	–
	16	400	406	1692	600	838	1766	680	406	1692	600	838	1766	680	–	–	–
	18	450	432	1888	600	914	1932	680	432	1888	600	914	1932	680	–	–	–
	20	500	457	2123	680	991	2137	760	457	2123	680	991	2137	760	–	–	–
	24	600	508	2497	760	1143	2542	910	508	2497	760	1143	2542	910	–	–	–
BODY			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB		
BONNET			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB		
STEM			A182 Gr.F6A			A182 Gr.F6A			A182 Gr.F6A			A182 Gr.F6A			A182 Gr.F6A		
DISC			A182 Gr.F6A / A216 Gr.WCB+13Cr			A182 Gr.F6A / A216 Gr.WCB+13Cr			A182 Gr.F6A / A216 Gr.WCB+13Cr			A182 Gr.F6A / A216 Gr.WCB+13Cr			A182 Gr.F6A / A216 Gr.WCB+13Cr		

TYPE			GLOBE			GLOBE			GLOBE			SWING CHECK			SWING CHECK		
Carbon Steel																	
FIG			20SCJS / G-20SCJS			150SCJS / G-150SCJS			300SCJS / G-300SCJS			10SCOS			20SCOS		
PRESSURE			20K			Class 150			Class 300			10K			20K		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	165	331	200	229	361	200	–	–	–	–	–	–
	2	50	267	361	200	203	331	200	267	361	200	203	156	155	267	164	155
	2½	65	292	428	250	216	379	250	292	428	250	216	168	175	292	190	175
	3	80	318	436	250	241	389	250	318	436	250	241	185	185	318	205	200
	4	100	356	509	350	292	458	250	356	509	350	292	210	210	356	230	225
	5	125	400	610	400	356	484	300	400	610	400	330	239	250	400	250	270
	6	150	444	989	500	406	513	350	444	989	500	356	250	280	444	280	305
	8	200	559	1064	500	495	929	500	559	1064	500	495	293	330	533	330	430
	10	250	622	1142	600	622	975	500	622	1142	600	622	340	400	622	370	480
	12	300	711	1187	600	698	1049	500	711	1187	600	698	375	445	711	415	540
	14	350	–	–	–	–	–	–	–	–	–	787	415	490	838	491	605
	16	400	–	–	–	–	–	–	–	–	–	864	455	560	864	543	675
	18	450	–	–	–	–	–	–	–	–	–	978	508	620	978	584	730
	20	500	–	–	–	–	–	–	–	–	–	978	585	675	1016	645	845
	24	600	–	–	–	–	–	–	–	–	–	1295	670	795	–	865	–
BODY			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB		
BONNET			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB			–			–		
COVER			–			–			–			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB		
STEM			A182 Gr.F6A			A182 Gr.F6A			A182 Gr.F6A			–			–		
HINGE PIN			–			–			–			A276 TYPE403			A276 TYPE403		
DISC			A182 Gr.F6A / A216 Gr.WCB+13Cr			A182 Gr.F6A / A216 Gr.WCB+13Cr / A105+13Cr			A182 Gr.F6A / A216 Gr.WCB+13Cr / A105+13Cr			A182 Gr.F6A / A216 Gr.WCB+13Cr			A182 Gr.F6 / WCB+13Cr		
			SIZE.6 to 12 Gear operation type			SIZE.8 to 12 Gear operation type			SIZE.6 to 12 Gear operation type								

TYPE			SWING CHECK			SWING CHECK		
Carbon Steel								
FIG			150SCOS			300SCOS		
PRESSURE			Class 150			Class 300		
END CONNECTION			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D
	1½	40	165	132	127	241	155	156
	2	50	203	156	152	267	164	165
	2½	65	216	168	178	292	190	190
	3	80	241	185	190	318	205	210
	4	100	292	210	229	356	230	254
	5	125	330	239	254	400	250	279
	6	150	356	250	279	444	280	318
	8	200	495	293	343	533	330	381
	10	250	622	340	406	622	370	444
	12	300	698	375	483	711	415	521
	14	350	787	415	533	838	491	584
	16	400	864	455	597	864	543	648
	18	450	978	508	635	978	584	711
	20	500	978	585	698	1016	645	775
	24	600	1295	670	813	–	865	–
BODY			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB		
COVER			SCPH2 / A216 Gr.WCB			SCPH2 / A216 Gr.WCB		
HINGE PIN			A276 TYPE403			A276 TYPE403		
DISC			A182 Gr.F6A / A216 Gr.WCB+13Cr			A182 Gr.F6 / WCB+13Cr		

KITZ
GENERAL CATALOG

BUTTERFLY VALVE

Butterfly Valve

KITZ DJ Series Butterfly Valves

Thorough pursuit of functions required for butterfly valves
Variety of product ranges to comply with customers' requirements

Design Features

Molded-in (bonded) seat structure
(Size 2^B to 12^B)

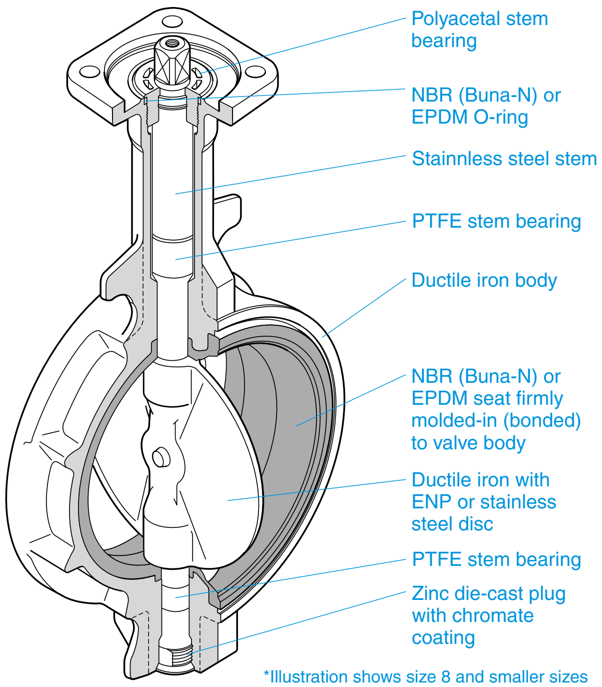
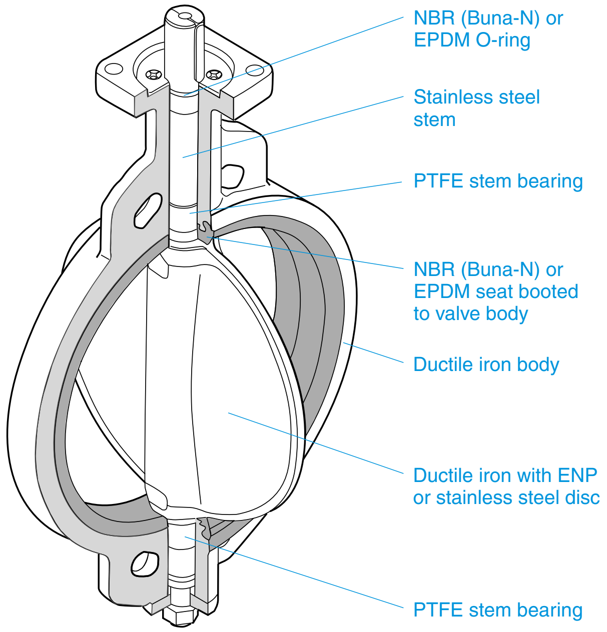
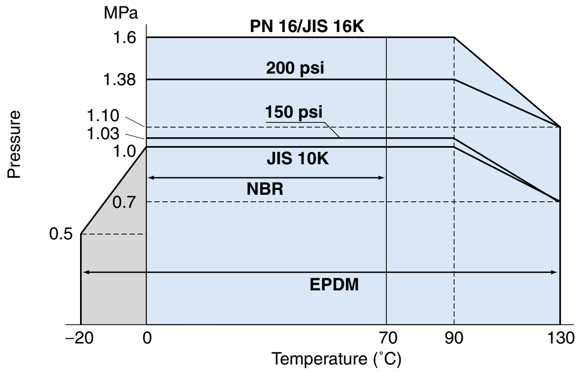

Polyacetal stem bearing
NBR (Buna-N) or EPDM O-ring
Stainnless steel stem
PTFE stem bearing
Ductile iron body
NBR (Buna-N) or EPDM seat firmly molded-in (bonded) to valve body
Ductile iron with ENP or stainless steel disc
PTFE stem bearing
Zinc die-cast plug with chromate coating

*Illustration shows size 8 and smaller sizes

Replaceable seat structure
(Size 14^B to 24^B)


NBR (Buna-N) or EPDM O-ring
Stainless steel stem
PTFE stem bearing
NBR (Buna-N) or EPDM seat booted to valve body
Ductile iron body
Ductile iron with ENP or stainless steel disc
PTFE stem bearing

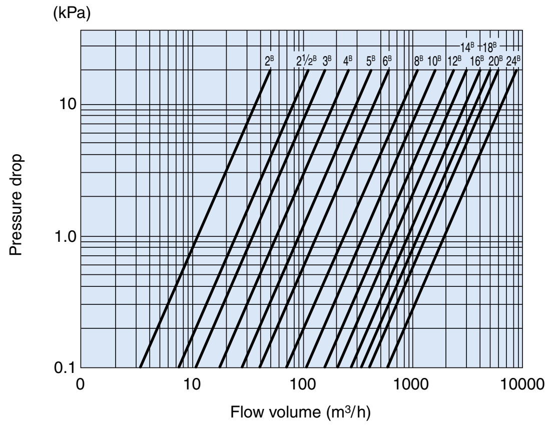
P-T Rating



Notes1: There are some fluid type restrictions for the service at 130˚C. Contact KITZ for the details.
Notes2: P-T rating for sub-zero application is optionally available. Contact KITZ for technical advice when service conditions may exceed the P-T rating range limited here.

Pressure Loss

(for handling static clean water with valve fully open)



Technical Specifications

Maximum Service Pressure

ASME 150 psi	1.03 MPa
ASME 200 psi	1.38 MPa
BS PN16	1.6 MPa
JIS 10K	1.0 MPa
JIS 16K	1.6 MPa

Body Material

Ductile iron	ASTM A536 Gr. 65-45-12 *1

*1 JIS 10K design, size 14B and larger: Cast iron ASTM A126 Class B

Service Temperature Range

NBR (Buna-N) seat	0˚C to +70˚C
EPDM seat	–20˚C to +130˚C *2
Continuous service temperature range	0˚C to +100˚C

*2 There are some fluid type restrictions for the service at 130˚C. Contact KITZ for the details.

Applicable Standards

Valve design	API 609, MSS-SP 67, EN 593, JIS B 2032
Face to face dimensions	API 609 Category A, MSS-SP 67 W-1 : Size 2^B to 14^B W-2 : Size 16^B to 24^B EN 558 basic series 20, ISO 5752 20 Series, JIS B 2002 46 Series

Coupling Flanges

Wafer type	ASME Class 125/150 EN 1092 PN 10: DN 50 to DN 350, PN 16: All Sizes BS 10 Table D/Table E JIS 10K/16K
Lugged type	ASME Class 125/150 EN 1092 PN 10: DN 50 to DN 150, PN 16: All Sizes

Explanation of Product Code

G - PN16 DJ L U E

① ② ③ ④ ⑤ ⑥

① Valve operation

None	Lever handle
G	Gear
VG	Vertical gear
B	Type B pneumatic actuator
BS	Type BS pneumatic actuator
FA	Type FA pneumatic actuator
FAS	Type FAS pneumatic actuator
EXS110/200	Type EXS KELMO® electric actuator
EXD110/200	Type EXC KELMO® electric proportional control actuator

② Class

150	ASME 150 psi
200	ASME 200 psi
PN16	EN1092 PN 16
10	JIS 10K
16	JIS 16K

③ Valve material and design

DJ	Ductile iron DJ series *Cast iron for JIS10K, Size 350 to 600
FDDJ	Ductile iron for JIS10K, Size 350 to 600 (Option)

④ Connection

None	Wafer
L	Lugged
F	Double flanged

⑤ Disc material

None	Ductile iron (Ni-plated)
U	304 stainless steel
M	316 stainless steel
A	Aluminum bronze

⑥ Seat material

None	NBR (Buna-N)
E	EPDM

KITZ EJ Series Butterfly Valves

Materials

Parts	Materials
Body	Ductile iron [EN-GJS-450-10]
Stem	Stainless Steel [AISI 410]
Disc	Stainless Steel [A351 Gr.CF8M]
Seat	W-NBR (White NBR) VMQ (Silicone rubber) FKM (Fluoro rubber)
O-ring	FKM
Bearing	Stainless Steel
Stem bearing	Multi-layered bearing*
Plug	Zinc die-cast
Bottom stem	Stainless Steel [AISI 410]

* Tetrafluoroethylene resin filled overlayer, a sintered bronze interlayer and a steel backing.

Flange Table

Standard		BS EN 1092			BS10	ASME B16.5
Size		PN6	PN10	PN16	Table E	Class150
inch	mm					
2	50	●	●	●	●	▲
2 1/2	65	▲	●	●	●	▲
3	80	●	●	●	●	●
4	100	●	●	●	●	●
5	125	●	▲	▲	▲	●
6	150	●	●	●	▲	●
8	200	●	●	●	▲	●
10	250	●	▲	●	▲	▲
12	300	●	▲	▲	▲	▲

● : Standard mounting
▲ : Special mounting (Proper centering is required)

Three types of seat material

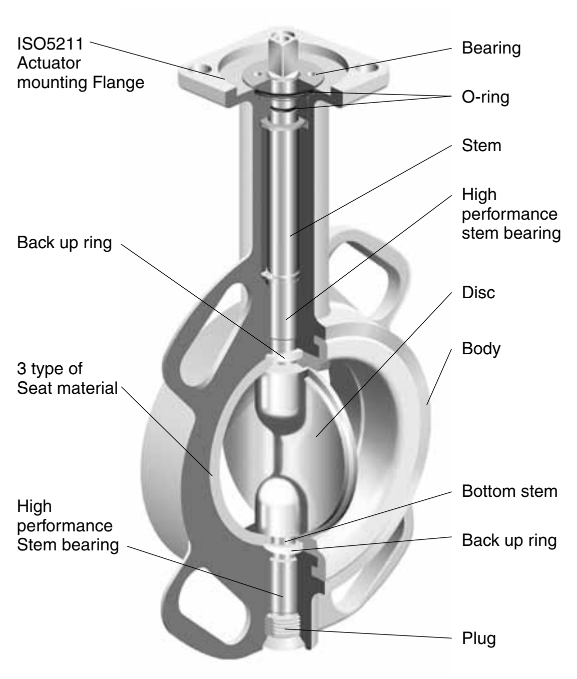
The three types of seat material are as follows: VMQ (Silicone rubber), which can be used for a wide range of temperature applications; W-NBR (White NBR), which is suitable for use in the food processing industry; and FKM (Fluoro rubber), which has properties such as strength and durability for use in a variety of fluid applications. W-NBR and VMQ meet the requirement of the FDA.*

*All the above-listed materials used are approved by the FDA, and the seats are manufactured within the maximum allowable limitations and restrictions.

Suitable for various flanges

All the sizes are suitable for the flanges of EN1092 PN6, PN10, PN16 / BS10 Table E / ASME Class125 and Class150

Design Features


ISO5211 Actuator mounting Flange
Bearing
O-ring
Stem
High performance stem bearing
Back up ring
Disc
Body
3 type of Seat material
Bottom stem
High performance Stem bearing
Back up ring
Plug

Integral ISO 5211 actuator mounting flange

Any pneumatic or electric valve actuator provided with the ISO 5211 valve mounting flange can be easily mounted for the actuation of valves in the field.

High-performance stem bearing having additional strength to withstand high temperature and high pressure

The stem bearing of the EJ series is a multilayered backmetal to provide a high-performance bearing surface capable of withstanding high pressure and temperature.

Backup ring to maintain the stem sealing

The backup ring around the stem maintains the performance of the stem sealing by the movement of the stem/disc in the sealing/seat of the valve.

Stainless steel bearing features

Embedded within the stainless upper body bearing is a multilayered bearing for providing smooth stem operation. Also housed within the stem bearing is a snap ring to provide protection and prevent blow out of the stem due to internal pressure.

Polished disc

The polished disc is standard for VMQ and optional for W-NBR seats for use within the food and pharmaceutical industry.

Technical Specifications

Maximum service pressure

PN10	10 bar (1.0 MPa)

Body material

Ductile iron	EN-GJS-450-10, Equivalent to ASTM A536 Gr. 65-45-12, BS 2789 Gr. 40/10 *1

*1 Obsolete Standard.

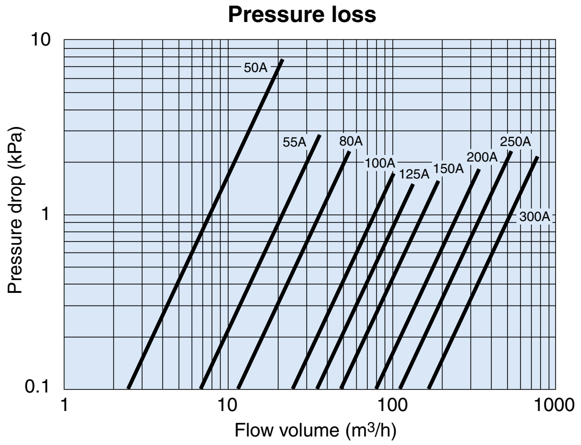
Applicable standards

Valve design	EN 593:2004

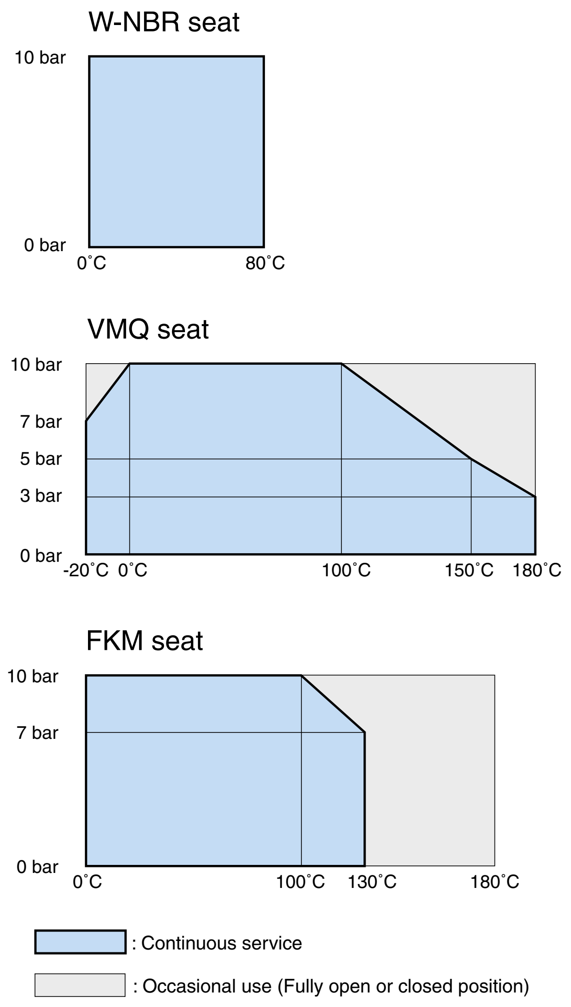
Coupling flanges

Wafer type	EN1092 PN6, PN10, PN16 BS10 Table E ASME Class125, Class150

Technical Data



P-T rating



Explanation of Product Code

G – PN10 EJ M W

① ② ③ ④ ⑤

① Valve operation
None.......... Lever handle
G................ Gear

② Class
PN10

③ Valve material and design
EJ...... Ductile iron EJ series

④ Disc material
M........ 316 stainless steel

⑤ Seat material
W........ W-NBR
Q.........VMQ
F......... FKM

Please consult KITZ sales staff or our local agent for details of the seat and the disc combination.
Please consult KITZ sales staff or our local agent for vacuum service.

Aluminum Butterfly Valves XJ Series

KITZ XJ Series aluminum butterfly valves: Featured with a unique style of neck designs (U.S.P. No. 6676109) for accommodation of various piping designs, piping positions, and installation environments.

Two neck designs for your choice:

A long neck type and a short neck type are available for versatile applications.

Easy valve-to-flange centering:

The light weight of the die-cast aluminum valve body (which is only one-third of KITZ's conventional cast iron butterfly valves) eases the valve-to-flange centering work on mounting valves on pipelines.

Wide range of service applications:

Austenitic stainless steel discs and EPDM rubber seats can handle many different kinds of line fluids without any concern of corrosion.

Stabilized operating torque:

A pair of stem bearings assembled around the top and bottom stems prevents stem galling and stabilizes the valve operating torque for smooth and trouble-free disc rotation.

On-the-spot actuator assembly:

Actuator mounting pads are designed in conformity with the ISO 5211 requirements for direct on-site mounting of actuators that are provided with ISO 5211 valve mounting flanges.

Prevention of dew condensation (Long neck type):

A long stainless steel neck blocks transfer of the fluid heat to a valve operating device, and thus, no insulation is required. Dew condensation is also minimized in the case of gear-operated valves under cold water service.

Rust prevention:

Key parts such as stems, discs, necks, neck connectors, and endplates, and minor parts such as stopper plates, washers, and boltings are all made of stainless steel for corrosion resistance.

S-shaped spherical disc for high sealing performance (patented):

KITZ's original cross-sectionally S-shaped valve discs with spherical surfaces make tight contact evenly with rubber liners for excellent sealing performance with reduced operating torque. A thorough 360° shut-off mechanism helps extend the service life of the rubber liners. (Size 2 inches and larger.)

Long Neck Type

Prevented dew condensation

- A long stainless steel neck reduces conductivity of the fluid heat for prevention of dew condensation.
- Availability of valve body and neck insulation.
- Choice of actuators for automated valve operation.

Applications:

- Building utilities .
- Piping networks for cold water, hot water and other water supply.

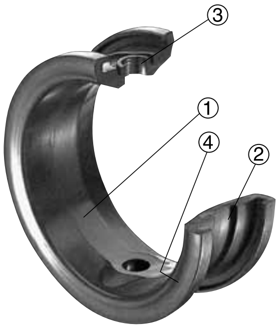
Short Neck Type

Compact design

- Suitable for piping in a limited space.
- Choice of actuators for automated valve operation.

Applications:

- Building utilites.
- Plant facilities.
- Water treatment service.
- Operation of industrial machineries.



Elaborately designed KITZ EPDM seats are featured with the following uniqueness for functional stability, high sealing performance and long life cycle:

- Self-reinforcing back-ribs
- Wider disc seating contact
- Dual stem seal bearings

①Wider disc seating contact for high sealing performance.
②Reinforcing back-ribs to minimize valve operating problems such as distortion, skidding and exfoliation of rubber liners caused by line pressure load and friction with metal discs.
③Stem seal bearings are assembled on top and bottom stems for stabilized sealing function.
④Gasketless flange sealing contact for easy valve mounting.

Technical Specification

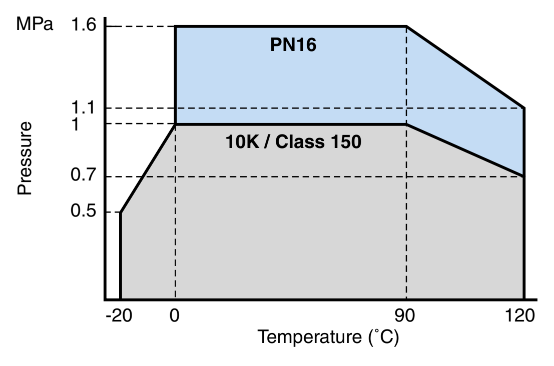
Class	JIS 10K	Class 150	PN16
Maximum service pressure	1 MPa	1 MPa	1.6 MPa (16 bar)
Service temperature range*1	−20°C to +120°C		
Continuous service temperature range*1	0°C to +100°C		
Face to face dimension	API609, BS5155 (Short pattern) ISO 5752-20, JIS B 2002 46 series		
Coupling flanges	JIS B 2220 / 2239 10K	*3 ASME Class 150 JIS B 2220 / 2239 10K	EN1092 PN16*1

*1 Condition : Fluid is not frozen.
*2 Refer to P-T rating chart.
*3 With centering sleeves.
Please refer to our website (www.kitz.co.jp) or contact KITZ for details.

Material

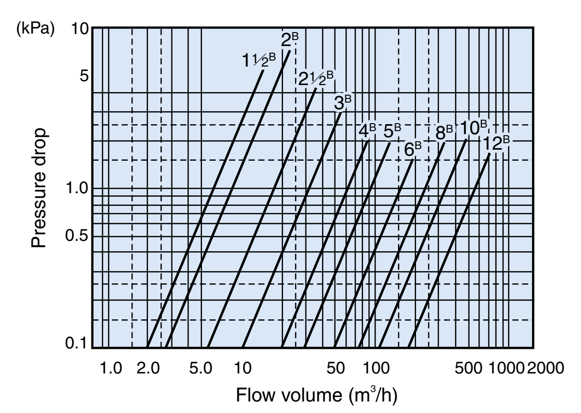
Parts	Material
Body	Aluminum Die-cast / Equivalent ASTM B85-84-383.0
Neck	A351 Gr. CF8
Stem	(Equivalent ASTM A276 Type 410)
Disc	A351 Gr. CF8M
O-ring	EPDM
Rubber seat	EPDM
Bottom stem	(Equivalent ASTM A276 Type 410)
Bearing	Metal Backed PTFE (Size 10^B and 12^B) Polyphenylenesulfide (10XJMEA : Size $1\frac{1}{2}^B$ to 8^B) Bronze : CAC401C (PN16XJME : Size 2^B to 8^B)

P-T Rating



Note : Contact KITZ corporation for technical advice when service conditions may exceed the P-T rating range limited here.

Pressure Loss (for handling static clean water)



Dew Condensation Test

Samples of KITZ XJ Series butterfly valves equipped with long necks (KITZ Product Code : G-10XJMEA) were tested at KITZ laboratory under the conditions introduced below. Lower surface temperature of gear boxes, atomospheric temperatures and atmospheric humidities were measured as the variable functions. The dew condensations boundary was estimated as illustrated below.

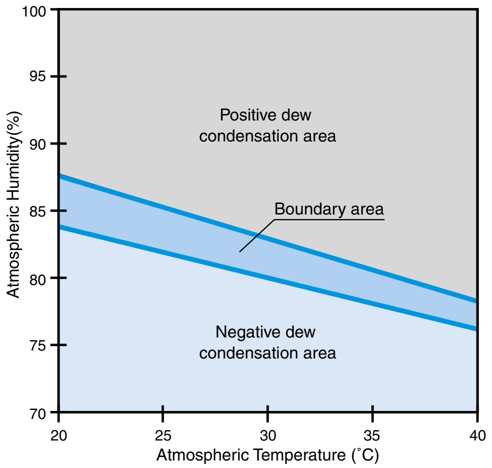
Test condition :

Line fluid : +5℃ cold water
Atmospheric temperature : +20℃ to +40℃
Valve insulation : 50 mm glass wool (JIS A 9501) around
the test valve with gear boxes exposed to
the open air.

Note:

The estimation introduced here is a result of summary of the tests carried out within a test basin provided with constant temperature and humidity, and does not necessarily represent absolute values. Note that dew condensation preventative property of these valves may be affected by change of test environments such as extent of air transfer and variation of line fluid temperature, atmospheric humiditiy or condition of insulation. Thus, acceptance of allowance of ±5% over the boundary area is recommended.

G−10XJMEA Estimated Dew Condensation Boundary



Product Coding

G - 10 XJ S M E A

G ①, 10 ②, XJ ③, S ④, M ⑤, E ⑥, A ②

① Valve operation

None... Lever
G......... Gear
FA........ Pneumatic actuator (Double action)
FAS...... Pneumatic actuator (Spring return action)
EXS......Electric actuator (Please consult KITZ for availability of power supply)

② Class

10.......... JIS 10K
10_A... JIS 10K/ASME Class 150
PN16......EN1092 4504 PN16

③ KITZ Butterfly valve series

XJ..........XJ series

④ Design

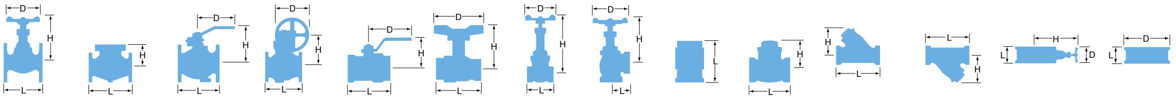
None... Long neck
S.......... Short neck

⑤ Disc material

M..........316 stainless steel

⑥ Seat material

E..........EPDM

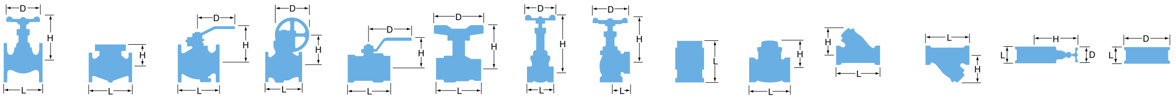


TYPE			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Butterfly Valve																	
FIG			10XJME			G-10XJME			(PH)PN16XJME			(PH)G-PN16XJME			10DJ		
PRESSURE			10K			10K			PN16			PN16			10K		
END CONNECTION			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)			Wafer Type (BS EN 1092 PN16)			Wafer Type (BS EN 1092 PN16)			Wafer Type (JIS 5K,10K)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	33	172	180	33	175	122	–	–	–	–	–	–	–	–	–
	50	50	43	176	180	43	179	122	43	176	180	43	179	122	43	191	180
	65	65	46	185	180	46	188	122	46	185	180	46	188	122	46	199	180
	80	80	46	193	180	46	196	122	46	193	180	46	212	135	46	217	180
	100	100	52	204	180	52	223	135	52	204	180	52	223	135	52	227	180
	125	125	56	249	230	56	258	150	56	249	230	56	258	150	56	265	230
	6	150	56	261	230	56	270	150	56	261	230	56	270	150	56	277	230
	8	200	–	–	–	60	311	180	–	–	–	60	311	180	–	–	–
	10	250	–	–	–	68	405	180	–	–	–	–	–	–	–	–	–
	12	300	–	–	–	78	430	180	–	–	–	–	–	–	–	–	–
	14	350	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	16	400	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	18	450	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	20	500	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	24	600	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Aluminum Die-Cast			Aluminum Die-Cast			Aluminum Die-Cast			Aluminum Die-Cast			FCD450-10		
BONNET			–			–			–			–			–		
STEM			SUS410			SUS410			SUS410			SUS410			SUS403 / SUS410		
DISC			A276 316 / A351 CF8M			A276 316 / A351 CF8M			A276 316 / A351 CF8M			A276 316 / A351 CF8M			FCD450-10+ENP		
SEAT			EPDM			EPDM			EPDM			EPDM			NBR		
															Ductlie iron (Ni-plated) disc		

TYPE			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Butterfly Valve																	
FIG			G-10DJ			VG-10DJ			PN16DJ			G-PN16DJ			PN16DJL		
PRESSURE			10K			10K			PN16			PN16			PN16		
END CONNECTION			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)			Wafer Type (BS EN 1092 PN16)			Wafer Type (BS EN 1092 PN16)			Lug Type (BS EN 1092 PN16)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	50	50	43	194	122	43	270	110	43	191	180	43	194	80	43	191	180
	65	65	46	202	122	46	278	110	46	199	180	46	202	80	46	199	180
	80	80	46	236	135	46	285	110	46	217	180	46	236	110	46	217	180
	100	100	52	246	135	52	295	110	52	227	180	52	246	110	52	227	180
	125	125	56	274	150	56	325	170	56	265	230	56	274	110	56	265	230
	6	150	56	286	150	56	337	170	56	277	230	56	286	110	56	277	230
	8	200	60	325	180	60	404	200	60	295	350	60	325	170	60	295	350
	10	250	68	381	250	68	461	310	–	–	–	68	381	250	–	–	–
	12	300	78	406	250	78	486	310	–	–	–	78	406	250	–	–	–
	14	350	78	445	220	78	569	360	–	–	–	78	461	360	–	–	–
	16	400	102	500	220	102	624	360	–	–	–	102	516	360	–	–	–
	18	450	114	524	220	114	648	360	–	–	–	114	540	360	–	–	–
	20	500	127	589	350	127	741	500	–	–	–	127	623	500	–	–	–
	24	600	154	637	350	154	789	500	–	–	–	154	671	500	–	–	–
BODY			FCD450-10			FCD450-10			FCD450-10			FCD450-10			FCD450-10		
BONNET			–			–			–			–			–		
STEM			SUS403 / SUS410			SUS403 / SUS410			A276 TYPE 410			A276 TYPE 410			A276 TYPE 410		
DISC			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP		
SEAT			NBR			NBR			NBR			NBR			NBR		
			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc		

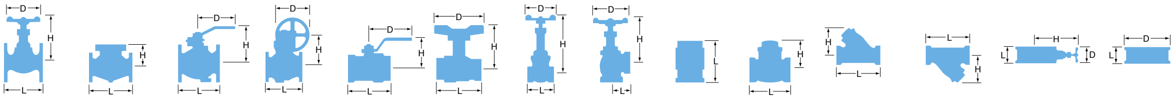
TYPE			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Butterfly Valve																	
FIG			G-PN16DJL			PN25DJE			PN25DJLE			G-150DJ			G-150DJE		
PRESSURE			PN16			PN25			PN25			Class 150			Class 150		
END CONNECTION			Lug Type (BS EN 1092 PN16)			Wafer Type (BS EN 1092 PN25)			Lug Type (BS EN 1092 PN16)			Wafer Type (ASME B16.5 CL150)			Wafer Type (ASME B16.5 CL150)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	2	50	43	194	80	43	191	180	43	191	180	–	–	–	–	–	–
	2½	65	46	202	80	46	199	180	46	199	180	–	–	–	–	–	–
	3	80	46	236	110	46	217	180	46	217	180	–	–	–	–	–	–
	4	100	52	246	110	52	227	180	52	227	180	–	–	–	–	–	–
	5	125	56	274	110	56	265	230	56	265	230	–	–	–	–	–	–
	6	150	56	286	110	56	277	230	56	277	230	–	–	–	–	–	–
	8	200	60	325	170	–	–	–	–	–	–	–	–	–	–	–	–
	10	250	68	381	250	–	–	–	–	–	–	–	–	–	–	–	–
	12	300	78	406	250	–	–	–	–	–	–	–	–	–	–	–	–
	14	350	78	461	360	–	–	–	–	–	–	77.7	447	220	77.7	447	220
	16	400	102	516	360	–	–	–	–	–	–	101.6	502	220	101.6	502	220
	18	450	114	540	360	–	–	–	–	–	–	114.3	526	220	114.3	526	220
	20	500	127	623	500	–	–	–	–	–	–	127	587	360	127	587	360
	24	600	154	671	500	–	–	–	–	–	–	153.9	635	360	153.9	635	360
BODY			FCD450-10			EN-GJS-450-10			EN-GJS-450-10			A536			A536		
BONNET			–			–			–			–			–		
STEM			A276 TYPE 410 / 420			AISI 410			AISI 410			A276 Type410			A276 Type410		
DISC			FCD450-10+ENP			EN-GJS-450-10(PLATED)			EN-GJS-450-10(PLATED)			FCD450-10+ENP			FCD450-10+ENP		
SEAT			NBR			EPDM			EPDM			NBR			EPDM		
			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc		

TYPE			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Butterfly Valve																	
FIG			G-150DJL			200DJ			200DJL			G-200DJ			G-200DJE		
PRESSURE			Class 150			Class 200			Class 200			Class 200			Class 200		
END CONNECTION			Lug Type (ASME B16.5 CL150)			Wafer Type (ASME B16.5 CL150)			Lug Type (ASME B16.5 CL150)			Wafer Type (ASME B16.5 CL150)			Wafer Type (ASME B16.5 CL150)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	2	50	–	–	–	42.9	191	180	42.9	191	180	42.9	194	121.5	42.9	194	121.5
	2½	65	–	–	–	46	199	180	46	199	180	46	202	121.5	46	202	121.5
	3	80	–	–	–	46	217	180	46	217	180	46	236	135	46	236	135
	4	100	–	–	–	52.3	227	180	52.3	227	180	52.3	246	135	52.3	246	135
	5	125	–	–	–	55.6	265	230	55.6	265	230	55.6	274	150	55.6	274	150
	6	150	–	–	–	55.6	277	230	55.6	277	230	55.6	286	150	55.6	286	150
	8	200	–	–	–	60.5	295	350	60.5	295	350	60.5	325	180	60.5	325	180
	10	250	–	–	–	–	–	–	–	–	–	68.3	381	180	68.3	381	180
	12	300	–	–	–	–	–	–	–	–	–	77.7	406	180	77.7	406	180
	14	350	77.7	447	220	–	–	–	–	–	–	–	–	–	–	–	–
	16	400	101.6	502	220	–	–	–	–	–	–	–	–	–	–	–	–
	18	450	114.3	526	220	–	–	–	–	–	–	–	–	–	–	–	–
	20	500	127	587	360	–	–	–	–	–	–	–	–	–	–	–	–
	24	600	153.9	635	360	–	–	–	–	–	–	–	–	–	–	–	–
BODY			A536			A536			A536			A536			A536		
BONNET			–			–			–			–			–		
STEM			A276 Type410			A276 Type410			A276 Type410			A276 Type410			A276 Type410		
DISC			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP		
SEAT			NBR			NBR			NBR			NBR			EPDM		
			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc		



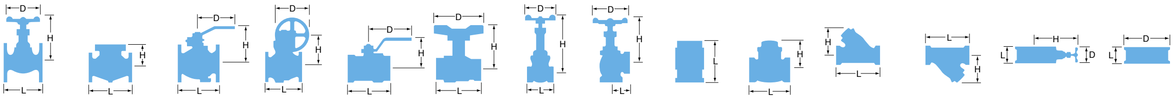
TYPE			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Butterfly Valve																	
FIG			G-200DJL			G-200DJLE			250DJ			G-250DJ			G-250DJE		
PRESSURE			Class 200			Class 200			Class 250			Class 250			Class 250		
END CONNECTION			Lug Type (ASME B16.5 CL150)			Lug Type (ASME B16.5 CL150)			Wafer Type (ASME B16.5 CL150)			Wafer Type (ASME B16.5 CL150)			Wafer Type (ASME B16.5 CL150)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	2	50	42.9	194	121.5	42.9	194	121.5	42.9	191	180	42.9	194	121.5	42.9	194	121.5
	2½	65	46	202	121.5	46	202	121.5	46	199	180	46	202	121.5	46	202	121.5
	3	80	46	236	135	46	236	135	46	217	180	46	236	135	46	236	135
	4	100	52.3	246	135	52.3	246	135	52.3	227	180	52.3	246	135	52.3	246	135
	5	125	55.6	274	150	55.6	274	150	55.6	265	230	55.6	274	150	55.6	274	150
	6	150	55.6	286	150	55.6	286	150	55.6	277	230	55.6	286	150	55.6	286	150
	8	200	60.5	325	180	60.5	325	180	60.5	295	350	60.5	325	180	60.5	325	180
	10	250	68.3	381	180	68.3	381	180	–	–	–	68.3	381	250	68.3	381	250
	12	300	77.7	406	180	77.7	406	180	–	–	–	77.7	406	250	77.7	406	250
BODY			A536			A536			A536			A536			A536		
BONNET			–			–			–			–			–		
STEM			A276 Type410			A276 Type410			A276 Type410			A276 Type410			A276 Type410		
DISC			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP		
SEAT			NBR			NBR			NBR			NBR			EPDM		
			Ductile iron (Ni-plated) disc			Ductile iron (Ni-plated) disc			Ductile iron (Ni-plated) disc			Ductile iron (Ni-plated) disc			Ductile iron (Ni-plated) disc		

TYPE			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Butterfly Valve																	
FIG			250DJL			G-250DJL			G-250DJLE			G-250DJA			G-250DJAE		
PRESSURE			Class 250			Class 250			Class 250			Class 250			Class 250		
END CONNECTION			Lug Type (ASME B16.5 CL150)			Lug Type (ASME B16.5 CL150)			Lug Type (ASME B16.5 CL150)			Wafer Type (ASME B 16.5 CL150)			Wafer Type (ASME B 16.5 CL150)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	2	50	42.9	191	180	42.9	194	121.5	42.9	194	121.5	42.9	194	121.5	42.9	194	121.5
	2½	65	46	199	180	46	202	121.5	46	202	121.5	46	202	121.5	46	202	121.5
	3	80	46	217	180	46	236	135	46	236	135	46	236	135	46	236	135
	4	100	52.3	227	180	52.3	246	135	52.3	246	135	52.3	246	135	52.3	246	135
	5	125	55.6	265	230	55.6	274	150	55.6	274	150	55.6	274	150	55.6	274	150
	6	150	55.6	277	230	55.6	286	150	55.6	286	150	55.6	286	150	55.6	286	150
	8	200	60.5	295	350	60.5	325	180	60.5	325	180	60.5	325	180	60.5	325	180
	10	250	–	–	–	68.3	381	250	68.3	381	250	68.3	381	250	68.3	381	250
	12	300	–	–	–	77.7	406	250	77.7	406	250	77.7	406	250	77.7	406	250
BODY			A536			A536			A536			A536			A536		
BONNET			–			–			–			–			–		
STEM			A276 Type410			A276 Type410			A276 Type410			A276 Type410			A276 Type410		
DISC			FCD450-10+ENP			FCD450-10+ENP			FCD450-10+ENP			Aluminum-Bronze			Aluminum-Bronze		
SEAT			NBR			NBR			EPDM			NBR			EPDM		
			Ductile iron (Ni-plated) disc			Ductile iron (Ni-plated) disc			Ductile iron (Ni-plated) disc								



TYPE			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Butterfly Valve																	
FIG			G-250DJLA			G-250DJLAE			10UB			GL-10UB			GL-150UB		
PRESSURE			Class 250			Class 250			10K			10K			Class 150		
END CONNECTION			Lug Type (ASME B16.5 CL150)			Lug Type (ASME B16.5 CL150)			Wafer Type			Wafer Type			Wafer Type		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	2	50	42.9	194	121.5	42.9	194	121.5	43	176	230	43	192	150	43	192	150
	2½	65	46	202	121.5	46	202	121.5	46	186	230	46	202	150	46	202	150
	3	80	46	236	135	46	236	135	46	207	280	46	226	195	46	226	195
	4	100	52.3	246	135	52.3	246	135	52	221	280	52	240	195	52	240	195
	5	125	55.6	274	150	55.6	274	150	56	241	350	56	261	204	56	261	204
	6	150	55.6	286	150	55.6	286	150	56	263	350	56	283	204	56	283	204
	8	200	60.5	325	180	60.5	325	180	–	–	–	71	348	280	71	348	280
	10	250	68.3	381	250	68.3	381	250	–	–	–	76	416	310	–	–	–
	12	300	77.7	406	250	77.7	406	250	–	–	–	83	443	310	–	–	–
	14	350	–	–	–	–	–	–	–	–	–	92	476	358	–	–	–
	16	400	–	–	–	–	–	–	–	–	–	102	572	360	–	–	–
	18	450	–	–	–	–	–	–	–	–	–	114	607	360	–	–	–
	20	500	–	–	–	–	–	–	–	–	–	127	623	360	–	–	–
	24	600	–	–	–	–	–	–	–	–	–	154	757	377	–	–	–
BODY			A536			A536			SCS13A			SCS13A			A351 GR.CF8		
BONNET			–			–			–			–			–		
STEM			A276 Type410			A276 Type410			SUS304			SUS304			SUS304 N2		
DISC			Aluminum-Bronze			Aluminum-Bronze			SCS13A			SCS13A			A351 GR. CF8		
SEAT			NBR			EPDM			PTFE			PTFE			PTFE		

TYPE			BUTTERFLY			BUTTERFLY			BUTTERFLY			BUTTERFLY			DAMPER		
Butterfly Valve																	
FIG			10NFJNE			G-10NFJNE			10NFJNW			G-10NFJNW			10D		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)			Wafer Type		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	2	50	43	176	180	43	179	122	43	176	180	43	179	122	40	183	200
	2½	65	46	184	180	46	187	122	46	184	180	46	187	122	45	191	200
	3	80	46	194	180	46	213	135	46	194	180	46	213	135	50	198	200
	4	100	52	204	180	52	223	135	52	204	180	52	223	135	60	208	200
	5	125	56	249	230	56	258	150	56	249	230	56	258	150	65	237	280
	6	150	56	261	230	56	270	150	56	261	230	56	270	150	70	247	280
	8	200	–	–	–	60	311	180	–	–	–	60	311	180	80	272	280
	10	250	–	–	–	68	381	250	–	–	–	68	381	250	90	340	350
	12	300	–	–	–	78	406	250	–	–	–	78	406	250	100	365	350
BODY			FCD450-10			FCD450-10			FCD450-10			FCD450-10			FCD250+HCr		
BONNET			–			–			–			–			–		
STEM			SUS410			SUS410			SUS410			SUS410			SUS403		
DISC			FCD450-10+Nyron11			FCD450-10+Nyron11			FCD450-10+Nyron11			FCD450-10+Nyron11			SUS430		
SEAT			EPDM			EPDM			White-NBR			White-NBR			–		
			Nylon Corted disc			Nylon Corted disc			Nylon Corted disc			Nylon Corted disc					



TYPE			DAMPER			DAMPER			BUTTERFLY			BUTTERFLY		
Butterfly Valve														
FIG			GL-10D			GL-10A			UV			FV		
PRESSURE			10K			10K			Class 175			Class 175		
END CONNECTION			Wafer Type			Wafer Type			BS21 (JIS B0203)			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	–	–	–	–	–	–	43	45	85	47	45	85
	¾	20	–	–	–	–	–	–	47	47	85	51	47	85
	1	25	–	–	–	–	–	–	56	50	85	58	50	85
	1¼	32	–	–	–	–	–	–	63	60	110	67	60	110
	1½	40	–	–	–	–	–	–	69	64	110	73	64	110
	2	50	40	198	150	40	198	150	77	70	110	82	70	110
	2½	65	45	206	150	45	206	150	–	–	–	–	–	–
	3	80	50	213	150	50	213	150	–	–	–	–	–	–
	4	100	60	223	150	60	223	150	–	–	–	–	–	–
	5	125	65	249	190	65	249	190	–	–	–	–	–	–
	6	150	70	259	190	70	259	190	–	–	–	–	–	–
	8	200	80	284	190	80	284	190	–	–	–	–	–	–
	10	250	90	355	195	90	355	195	–	–	–	–	–	–
	12	300	100	380	195	100	380	195	–	–	–	–	–	–
BODY			FCD250+HCr			FCD250+HCr			SCS13A			Forged Brass		
BONNET			–			–			–			–		
STEM			SUS403			SUS403			SUS304			SUS304		
DISC			SUS430			SUS430			SUS304+W-NBR			SUS304+W-NBR		
SEAT			–			–			NBR			NBR		

BALL VALVE

KITZ Steel Ball Valves

Floating Ball Design

Design and Inspection Standards of KITZ Flanged Ball Valves

Item		American Standards	British Standards
Pressure-temperature ratings	Body	ASME B16.34	BS 5351
	Resilient sealing parts	KITZ Standard	
Shell wall thickness		ASME B16.34	BS 5351
Face to face dimensions		ASME B16.10	BS 2080 *1
End flange dimensions and flange gasket facing		ASME B16.5	BS 1560
Pressure test		API 598 or API 6D *2	BS 6755 Part 1 *2
Fire test		API 607 and API 6FA	BS 6755 Part 2

*1 Option for 2^B to 4^B Class 150 full port design.
*2 Option.

Explanation of Product Coding

Example:

150 U **(Uni-body, end entry design)**
G- 300 SC TDZ 1H M -FS **(Split body, side entry design)**
① ② ③ ④ ⑤ ⑥ ⑦

① Valve operation measure

None	Lever handle
G	Worm gear
B	KITZ Type B double action pneumatic actuator
BS	KITZ Type BS Spring return pneumatic actuator
BSW	KITZ Type BSW Spring return pneumatic actuator with manual operation device
FA	KITZ Type FA double action pneumatic actuator
FAS	KITZ Type FAS spring return pneumatic actuator
E	Electric actuator

② ASME pressure class
150, 300, 600 or 1500

③ & ⑥ Shell material & Trim material
U: Symbol of stainless or high alloy steel
SC: Symbol of carbon or low alloy steel

U/None	CF8	**U/CN**	CN7M
U/M	CF8M	**U/HB**	N-12MV
U/V	CF3	**U/HC**	CW-12MW
U/O	CF3M	**SC/None/None***	WCB/CF8
U/CB	CF8C	**SC/None/M***	WCB/CF8M
U/CG	CG8M	**SC/CL/None***	LCC/CF8
U/CK	CK20	**SC/CL/M***	LCC/CF8M
U/SD	CD3MWCuN		

④ Valve design & type

TDZ	Type TDZ
TDZX	Extended stem, Type TDZ
TB	Type TB
TR	Type TR
TBP	Pocketless, Type TB
TB2L	3-way 2-seat, L-port, Type TB
TB2T	3-way 2-seat, T-port, Type TB
TB4LA	3-way 4-seat, L-port, Type TB
TB4TA	3-way 4-seat, T-port, Type TB
TBT	Direct mouting to tank bottom
TBJ	Jacketed, Type TB
TBLN	PFA lined, Type TB
TAZ	Type TA

⑤ Seat Material

None	HYPATITE® PTFE
1H**	FILLTITE®
3H**	Hard graphite seat for low abrasion service, 500˚C
5H**	Metal seat for abrasive service, 300˚C
6H**	Metal seat for high abrasive service, 500˚C

** Type TDZ only

⑥ See ③

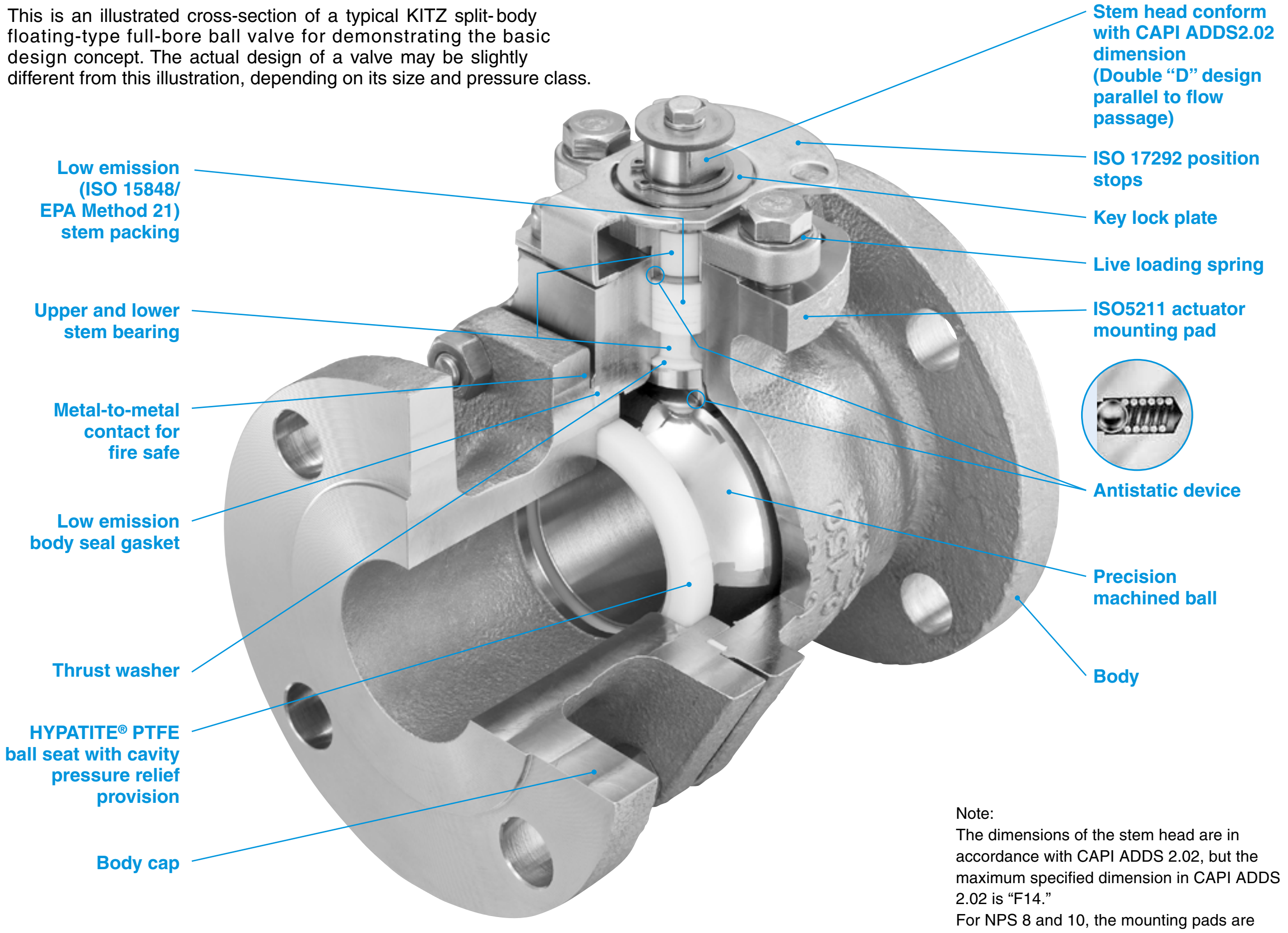
⑦ No symbol suffixed for PTFE packing and gasket.
"FS" or "S" suffixed for flexible graphite packing and gasket for super-firesafe provision

This catalog uses **MPa**, a SI unit, for indication of pressures. **psi** and **kgf/cm²** are also added for readers convenience.

Ball Seat
P.90

KITZ 150/300 SCTDZ/UTDZM Series Full-Bore, Split-Body, Side Entry Ball Valves

This is an illustrated cross-section of a typical KITZ split-body floating-type full-bore ball valve for demonstrating the basic design concept. The actual design of a valve may be slightly different from this illustration, depending on its size and pressure class.


Stem head conform with CAPI ADDS2.02 dimension (Double “D” design parallel to flow passage)
Low emission (ISO 15848/ EPA Method 21) stem packing
ISO 17292 position stops
Key lock plate
Live loading spring
Upper and lower stem bearing
ISO5211 actuator mounting pad
Metal-to-metal contact for fire safe
Antistatic device
Low emission body seal gasket
Precision machined ball
Thrust washer
Body
HYPATITE® PTFE ball seat with cavity pressure relief provision
Body cap

Note:
The dimensions of the stem head are in accordance with CAPI ADDS 2.02, but the maximum specified dimension in CAPI ADDS 2.02 is “F14.”
For NPS 8 and 10, the mounting pads are F16/ ISO 5211.

KITZ 150UTDZ 2^{B}

Bubble-tight sealing performance with HYPATITE® PTFE ball seats

HYPATITE® PTFE ball seats, which are the standard stem seals of KITZ ball valves, are made of denatured PTFE—a molecularly reinforced PTFE copolymer—and specifically engineered for ensuring high bidirectional sealing performance and prolonged service life of valves. Its resistance to high or low temperature, creep or compression, abrasion, and corrosion is outstanding. As an option, KITZ **SWELLESS®** ball seats made primarily of PFA are recommended specifically for monomer service. This epoch-making new seat maximizes resistance to the permeation of the monomer into its molecular structure (generally known as a “swelling” problem), which causes seat deformation and gravely affects the shut-off function of valves in styrene and butadiene monomer service.

Simplified actuator mounting

For 150/300 SCTDZ/UTDZM and SCTAZ/UTAZ Series ball valves, the ISO 5211 actuator mounting pad is integrally provided for achieving uniformly simplified mounting of any actuators provided with the valve mounting flanges designed to the ISO 5211 dimensional requirement. The 150UTBM Series ball valves are provided with the KITZ standard integral actuator mounting pad.

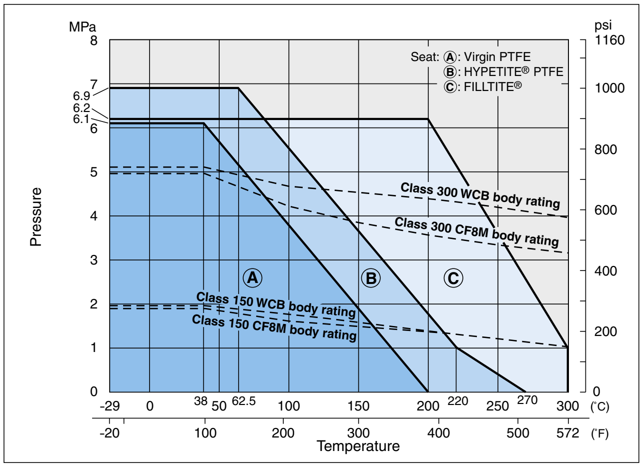
Easy maintenance

The split-body design provided for the KITZ SCTDZ/UTDZM Series provides the convenience of extremely easy maintenance, which is critically required for process plants. Body inserts of a unibody, end-entry design for the KITZ 150/300 SCTDZ/UTDZ Series are threaded into the valve body with provision of unthreading for valve disassembly in the case of maintenance operation.

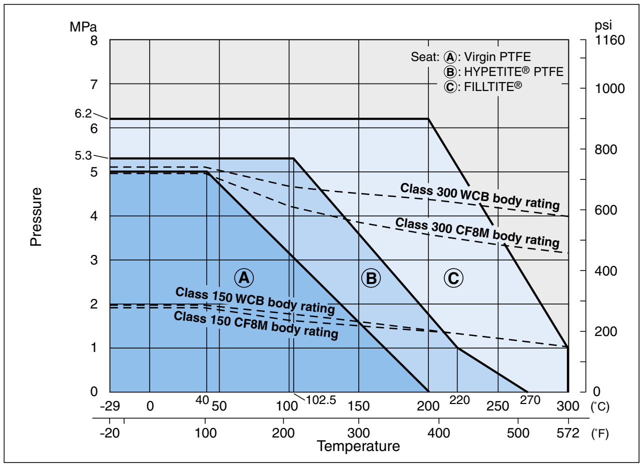
Ball Valve

Pressure-Temperature Ratings

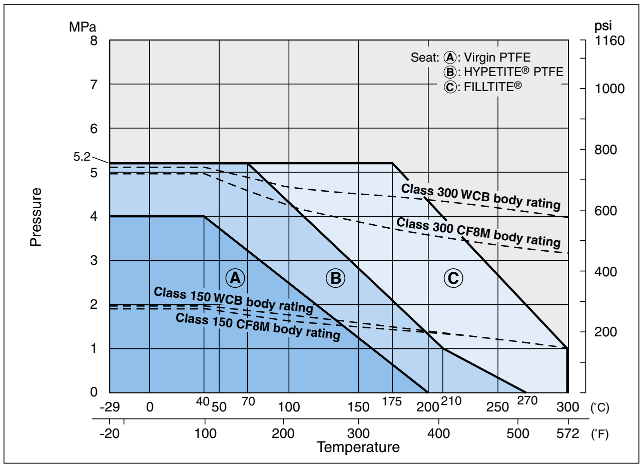
150/300UTDZM/SCTDZ: $^{1}/_{2}{}^{B}$ and $^{3}/_{4}{}^{B}$



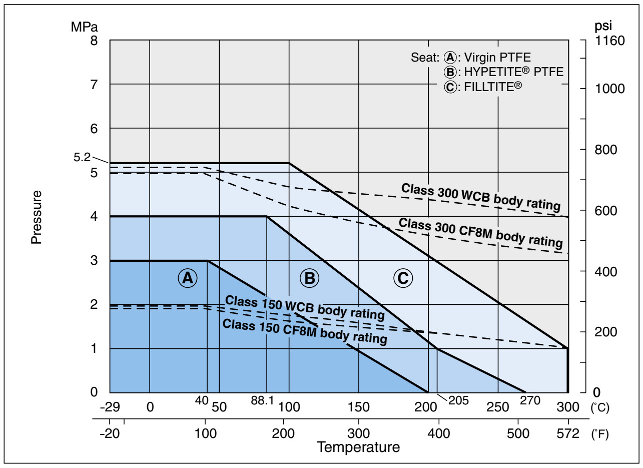
150/300UTDZM/SCTDZ: 1^{B} to $2^{1}/_{2}{}^{B}$



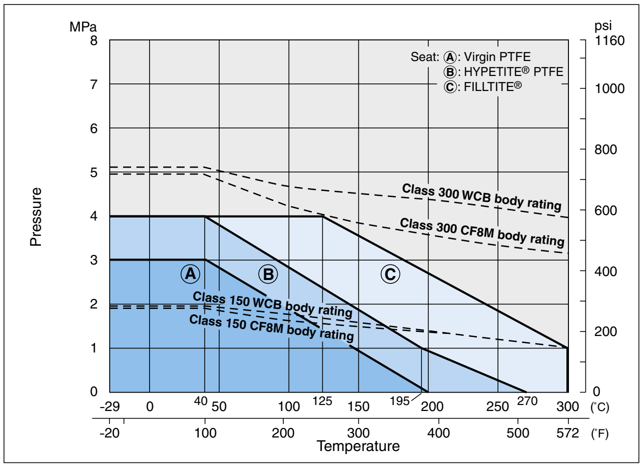
150/300UTDZM/SCTDZ: 3^{B} and 4^{B}



150/300UTDZM/SCTDZ: 5^{B} and 6^{B}



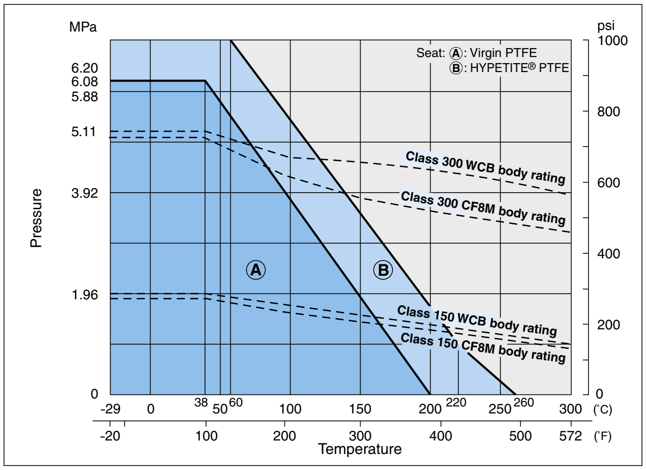
150/300UTDZM/SCTDZ: 8^{B} and 10^{B}



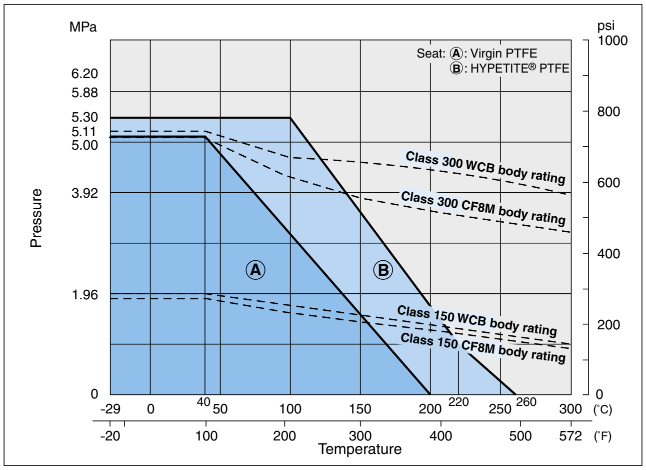
Ball Seat
P.90

Pressure-Temperature Ratings

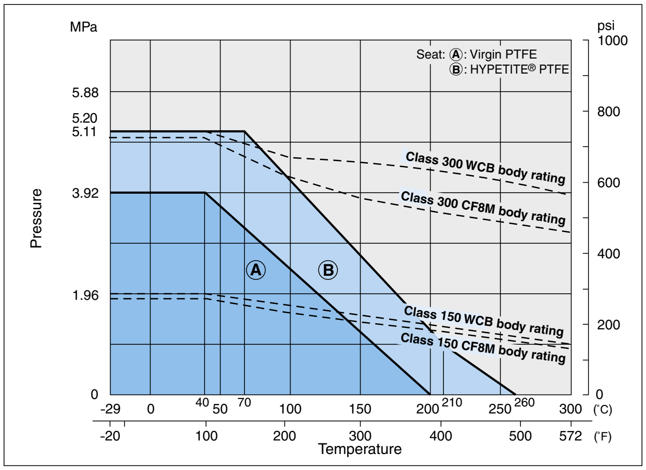
150UTBM : $1/2^B$ and $3/4^B$



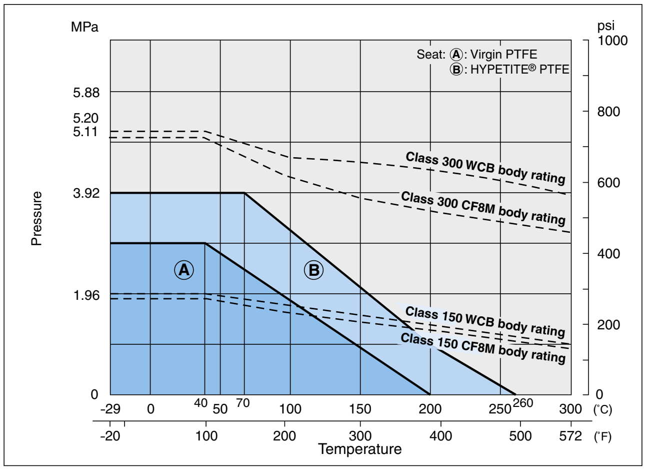
150UTBM : 1^B to $2\,1/2^B$



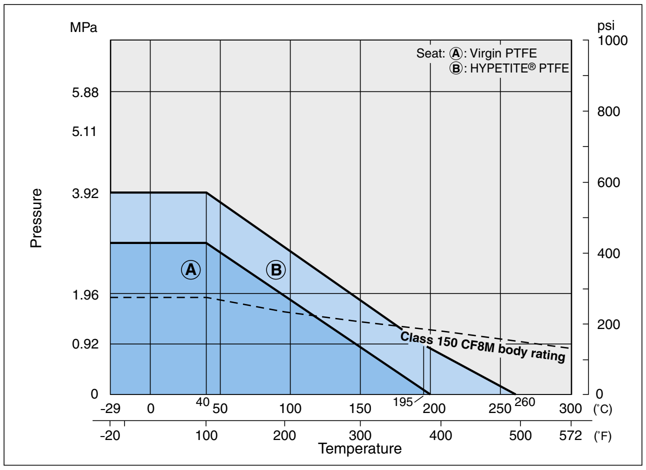
150UTBM : 3^B and 4^B



150UTBM : 5^B and 6^B



150UTBM : 8^B and 10^B

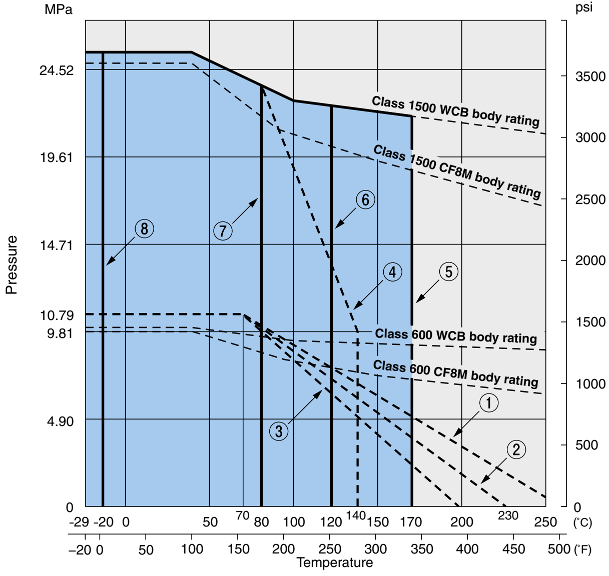


Ball Seat
P.90

Ball Valve

Pressure-Temperature Ratings

600/1500SCTB/UTBM



Ball Seat Materials

①: Carbon-filled PTFE
②: KITZ HYPATITE® or
Glass-filled PTFE with MoS_2
③: Virgin PTFE
④: Nylon with MoS_2

O-ring Upper Limit

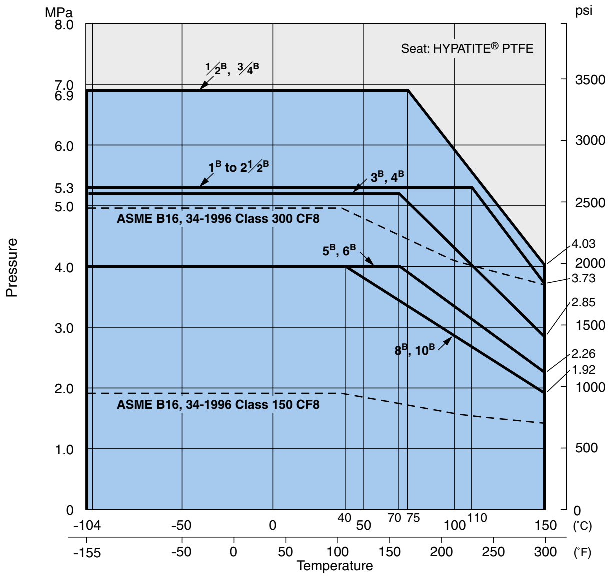
⑤: (1) FKM
(2) Low-temperature FKM
⑥: (1) EPDM
(2) ECO (Epichlorohydrin Copolymer)
⑦: (1) NBR
(2) Low-temperature NBR

O-ring Lower Limit

⑧: FKM

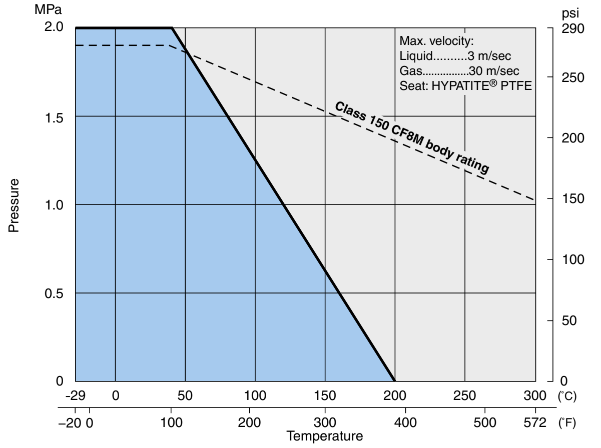
* O-rings made of others than FKM can withstand -29˚C (-20˚F)

150/300UTDZXL

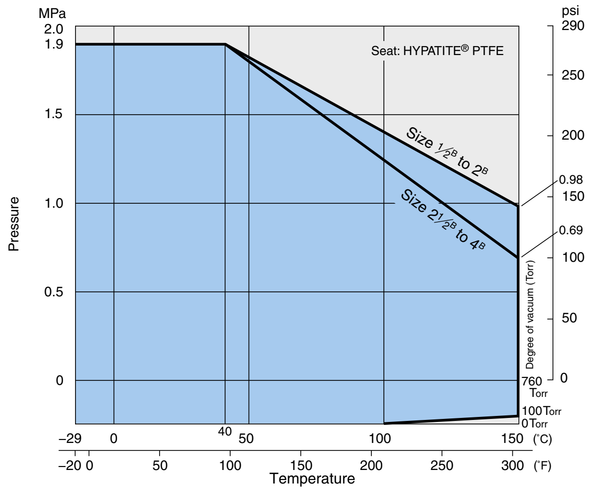


3-way: 150UTB4LAM/4TAM

*Refer to 150UTBM ratings for 150UTB2LM/2TM

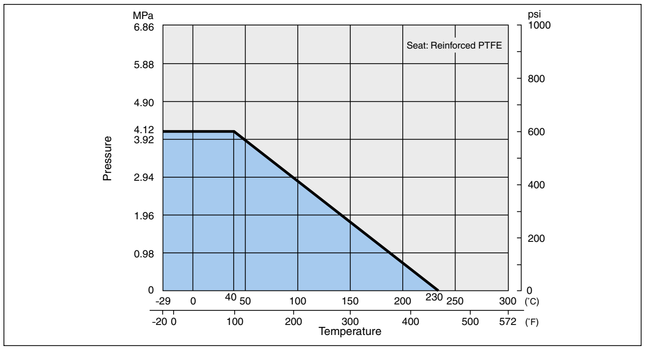


PFA Lined: 10UTBLN

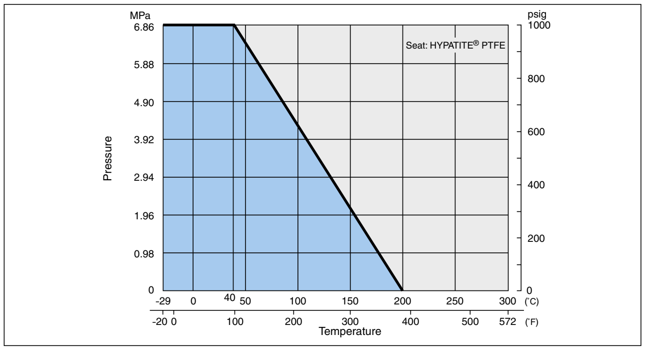


Pressure-Temperature Ratings

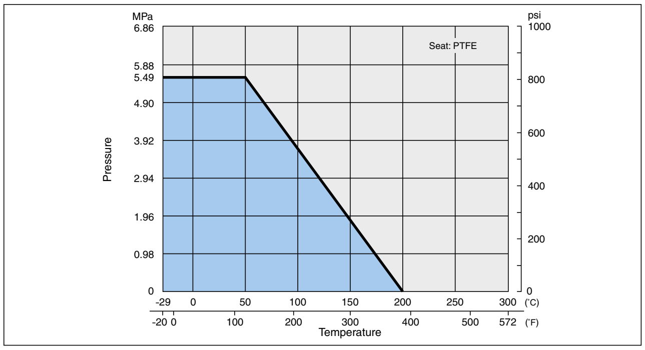
Type 600: SCTK/UTKM



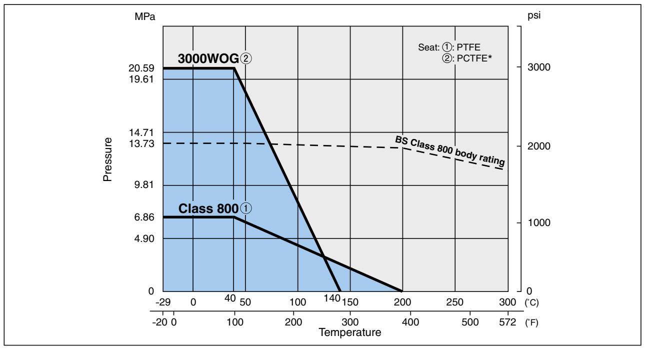
Type 1000: UTFM



Type 800: UTHM

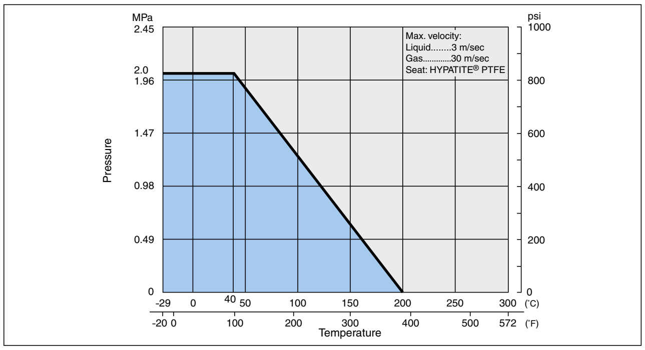


Class 800 and Type 3000: SCTK

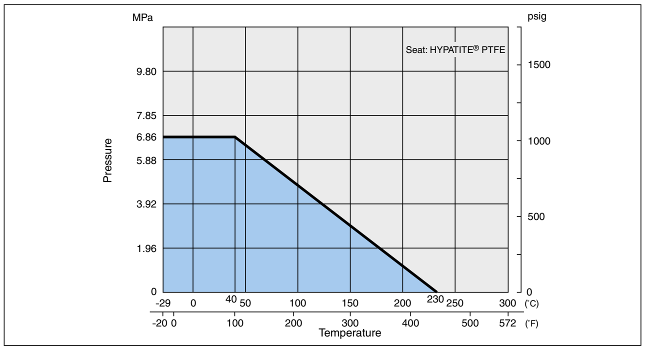


⋆ Polychloro-Trifluoro-Ethylene

Type 800: UTH4LM/4TM

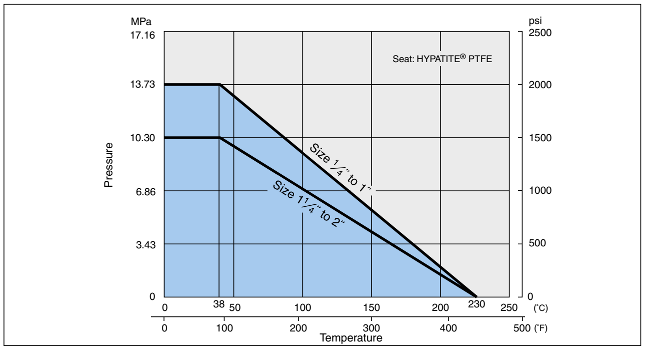


Type 1000: SC3TZ/U3TZ Series

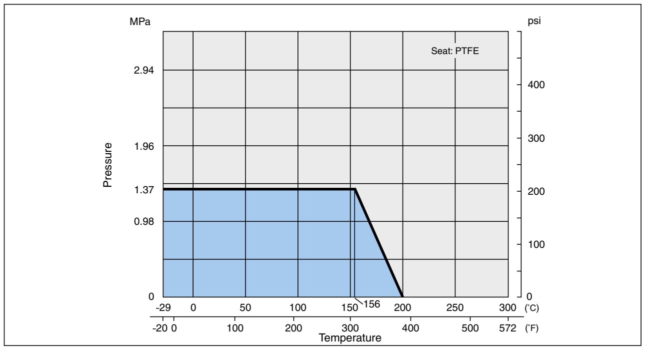


Note: Type 1500 is optionally available

Type 1500/2000: AKSCTHZM/AKSCTHWZM/AKUTHZM/AKUTHWZM



Class 150: AK150UTM

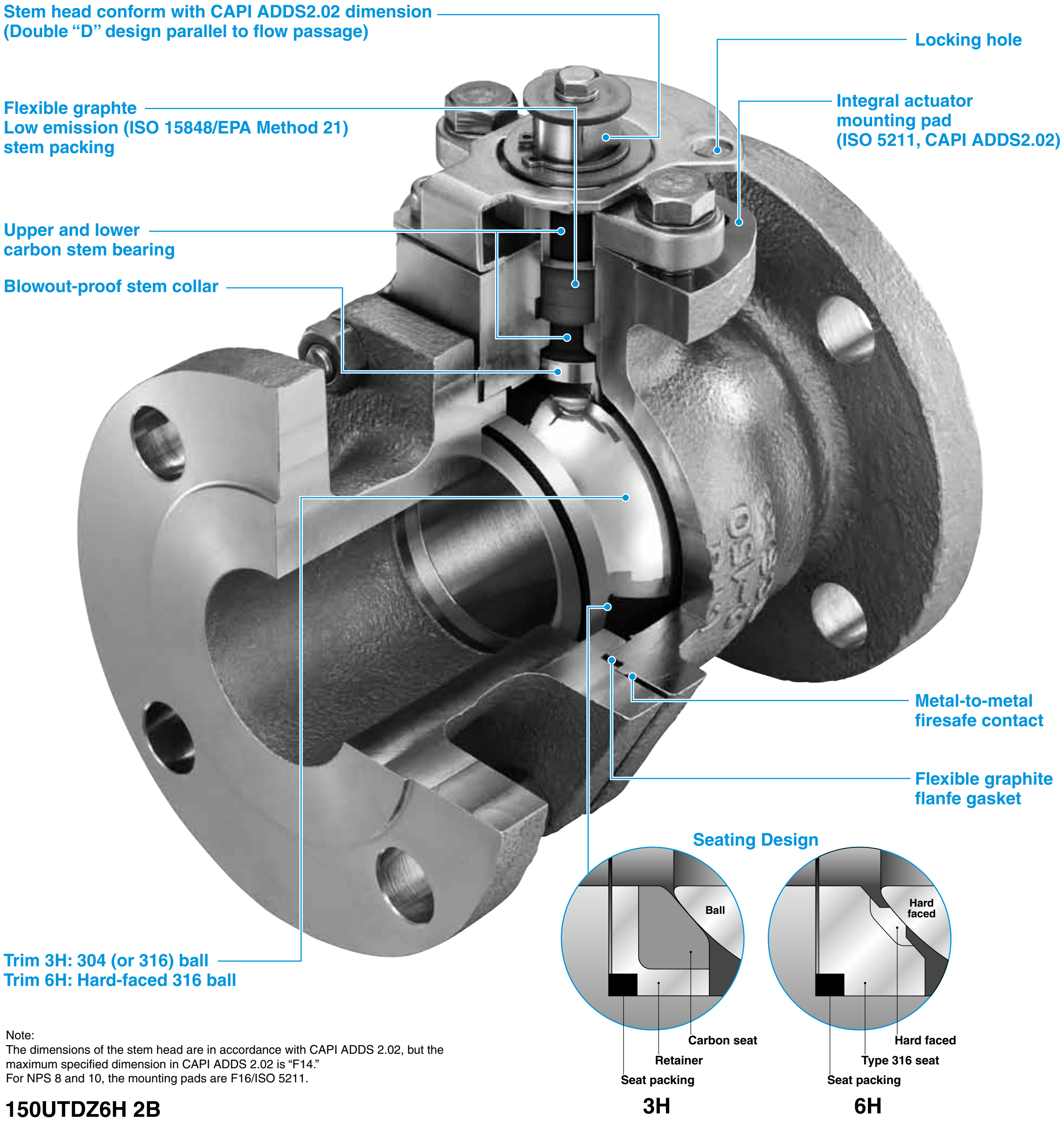


KITZ Steel Ball Valves for High Temperature

Design Feature Trim 3H, 5H, 6H

Split-Body, Side-Entry, Full-Bore Design

This is an illustrated cross-section of a typical KITZ high performance ball valve for demonstrating the basic design concept. The actual design of a valve may be slightly different from this illustration, depending on its size and pressure class.



Note:
The dimensions of the stem head are in accordance with CAPI ADDS 2.02, but the maximum specified dimension in CAPI ADDS 2.02 is "F14."
For NPS 8 and 10, the mounting pads are F16/ISO 5211.

150UTDZ6H 2B

Technical Data

1. Choice of trim for heated abrasive service

For metal seated ball valves, a maximum service temperature of 300°C (572°F) (Trim symbol 5H) and 500°C (932°F) (Trim symbol 6H*) is guaranteed. For hard graphite seated ball valves, a maximum service temperature of 500°C (932°F) is also guaranteed (Trim symbol 3H*). Heat-resistant sealing and trim materials qualify these valves for heated abrasive service, which cannot otherwise be properly handled by conventional soft seated ball valves owing to the limited heat resistance characteristics and mechanical properties of their soft seats. "FILLTITE®" is a specially reinforced ball seat, made using more carbon based fillers into PTFE than conventional carbon-filled PTFE, which greatly improves heat and abrasion resistances. The material shows excellent operability, durability, chemical resistance, and sealing performance at a high temperature of 300°C. In addition, the ball seat is replaceable with most of our conventional ball seats, so it also has a cost advantage.

*Temperature is limited to 425°C (797°F) for SCTDZ3H(M), 6H(M).

2. Unconditional firesafe provision

While metal or hard graphite seats are extremely heat resistant, other sealing components such as gland packings and flange gaskets are made of flexible graphite—another heat-resistant material—and so, no part of the valve will be affected by extraordinarily heated environments. Furthermore, the provision of an anti-static device is not required, because of inter-component electric conductivity.

3. Maintenance ease

The split-body construction of the valve body provides the convenience of easy maintenance, which is a critical requirement for handling slurries and other viscous fluids.

4. Valve automation

The quarter-turn valve drive mechanism makes the mounting of valve automation measures such as electric and pneumatic actuators technically easier. KITZ floating ball valves employ integral actuator mounting pads, complying with ISO 5211 and CAPI, for easy, safe, and assured on-the-spot actuator mounting without disassembly of valve glands.

5. High flow efficiency

The full port design provides maximized and linearized flow characteristics with minimal pressure loss as the line flow travels through the valve bore. This is a necessary design requirement, particularly for assuring trouble-free service of slurries and other viscous fluids.

6. Metal seated ball valves (Trim 5H/6H)

Rigid construction with full metallic contact between the ball and the seats and high durability of the trim materials make KITZ metal seated ball valves ideally suited to highly abrasive services that handle slurries and other viscous fluids.

● Trim materials

Valve Design		Floating Ball Valve	
Trim symbol		5H	6H
Temp.		300°C	500°C *3
		572°F	932°F *3
Seat leakage*1		ANSI FCI 70-2 Class Ⅵ	
Parts	Ball	ASTM A276 Type 316 or ASTM A351 Gr.CF8M + Cr plated	ASTM A276 Type 316 or A351 Gr.CF8M + SFNi *2
	Ball seat	ASTM A276 Type 316 + SFNi *2	ASTM A276 Type 316 + SFNi *2
	Stem	A 564 Type 630	A 564 Type 630

*1 Maximum allowable seat leakage *2 Ni-Cr alloy thermal spraying
*3 Temperature is limited to 425°C (797°F) for SCTDZ6H(M)

- ● A durable metal seat design and material also provide fully guaranteed throttling service performance, which makes the KITZ metal seated ball valves function as reliable control valves.
- ● Bidirectional flow.

Caution:

- ● Use a gear operator or a valve actuator to fix the valve position when used for throttling service.

7. Carbon seated ball valves (Trim 3H)

- ● Bi-directional flow.
- ● Recommended for low abrasion service.

Valve Design		Floating Ball Valve
Trim symbol		3H
Temp.		500°C *5
		932°F *5
Seat leakage*1		ANSI FCI 70-2 Class Ⅵ
Parts	Ball	ASTM A276 Type 304*1 or A351 Gr.CF8*2
	Ball seat	Cabon + JIS SUS329J1*3
	Stem	ASTM A276 Type 304*4

*1 Maximum allowable seat leakage *2 Shell material CF8M; Ball Type 316 or CF8M
*3 Equivalent to AISI Type 329 *4 Shell material CF8M; Stem Type 316
*5 Temperature is limited to 425°C (797°F) for SCTD3H(M).

Caution:

- ● Not recommended for throttling service.
- ● Not recommended for high abrasion service.
- ● Maximum working temperature for oxidizing service, such as high-temperature air, is 450˚C (842˚F).

8. FILLTITE® seated ball valves (Trim1H)

- ● Highest heat resistance among PTFE-based materials.

Valve Design		Floating Ball Valve
Trim symbol		1H
Temp.		300°C
		572°F
Parts	Ball	ASTM A276 Type 304*1 or A351 Gr.CF8*1
	Ball seat	FILLTITE® PTFE
	Stem	ASTM A276 Type 304*2 ASTM A276 Type 316*2

*1 Shell material CF8M; Ball Type 316 or CF8M
*2 Shell material CF8M; Stem Type 316

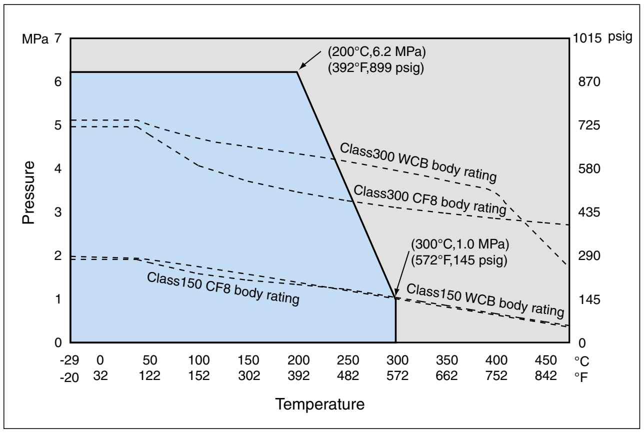
Ball Valve

Technical Data

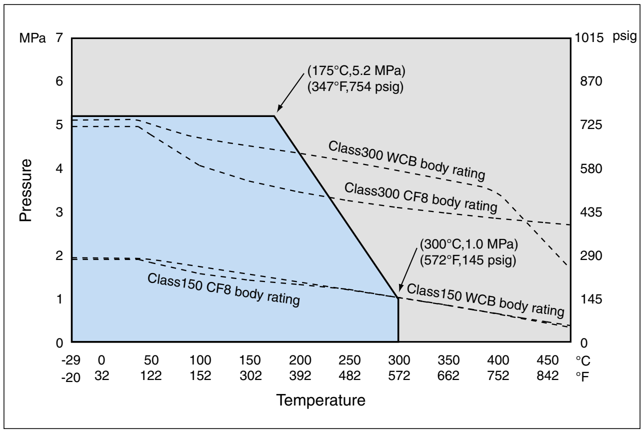
Pressure - Temperature Rating

- **FILLTITE® seated floating ball valves: Trim 1H**

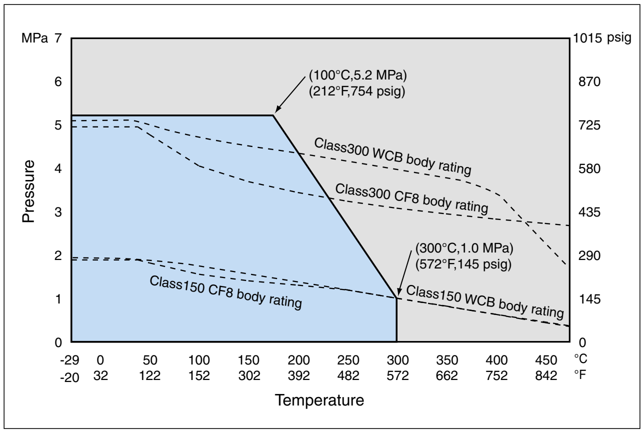
Size: ½^B to 2½^B



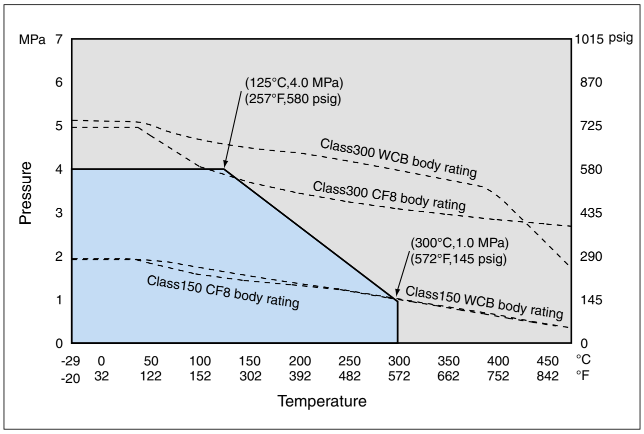
Size: 3^B and 4^B



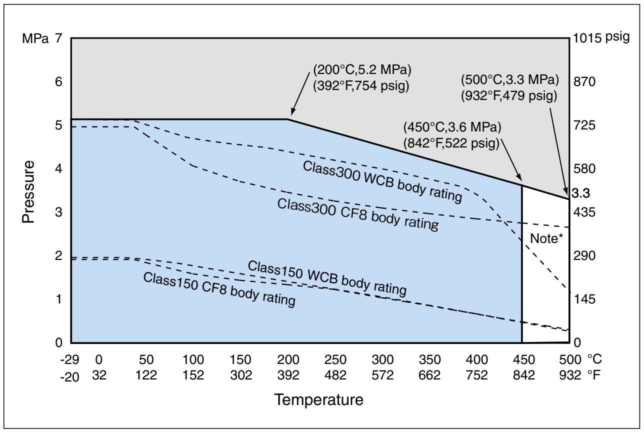
Size: 5^B and 6^B



Size: 8^B and 10^B



- **Hard graphite seated floating ball valves: Trim 3H**



Note* Maximum working temperature for oxidizing service, such as high temperature air, is 450°C (842°F).

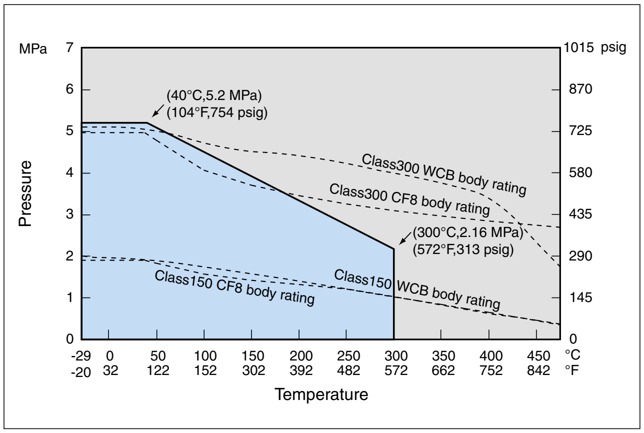
Note: Temperature is limited to 425°C (797°F) for SCTDZ3H(M).
Note: **3H/5H/6H** Serviceable temperature terminates at 300℃ (572°F) for JIS 10K and at 425℃ (797F°) for JIS 20K.

Technical Data

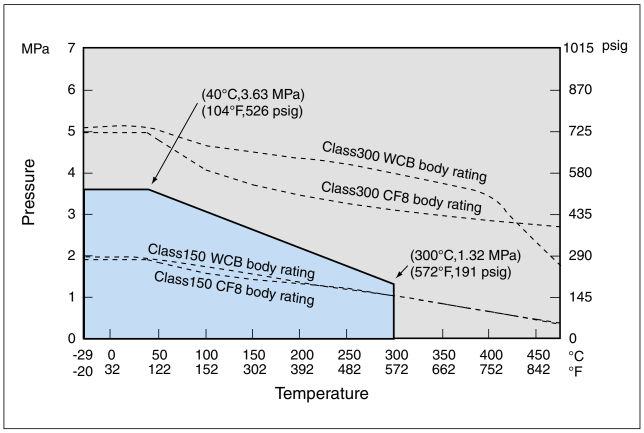
Pressure - Temperature Rating

● Metal seated floating ball valves: Trim 5H

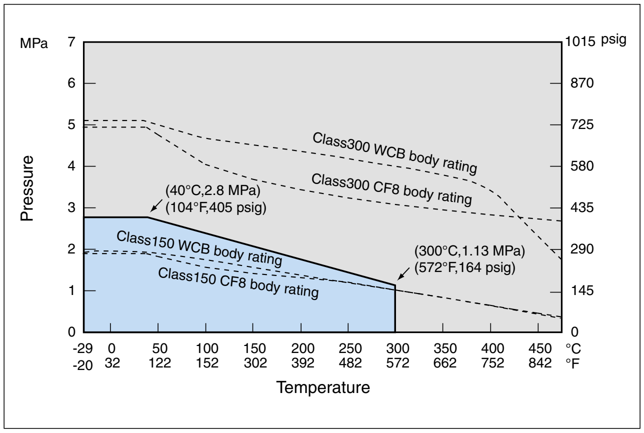
Size: ½^{B} to 1 ¼^{B}



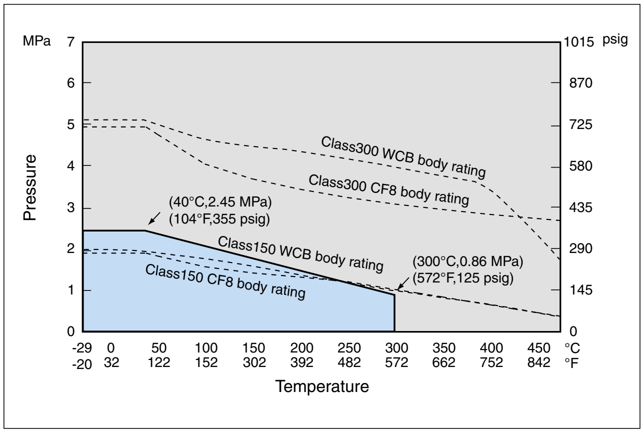
Size: 1½^{B} and 2^{B}



Size: 2½^{B} to 4^{B}

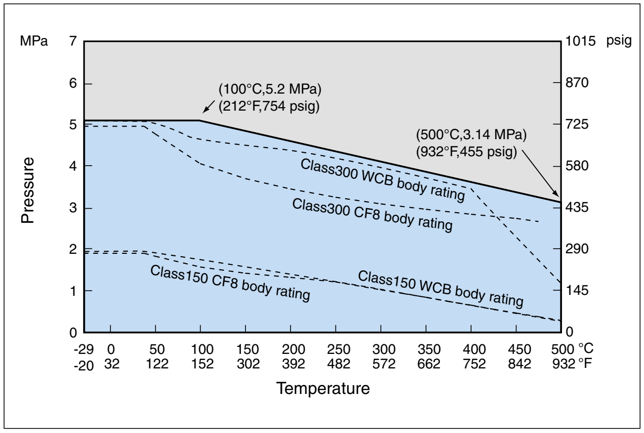


Size: 5^{B} to 8^{B}

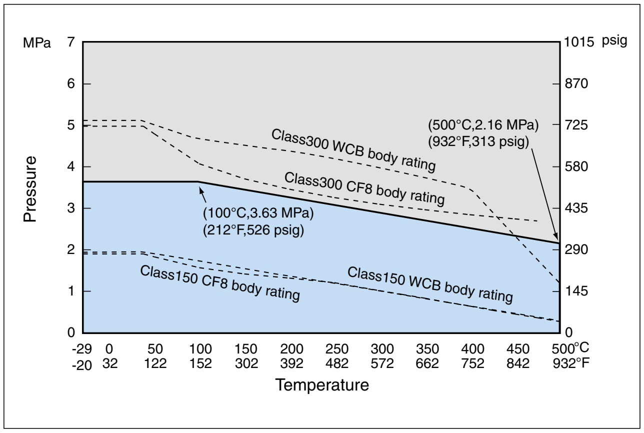


● Metal seated floating ball valves: Trim 6H

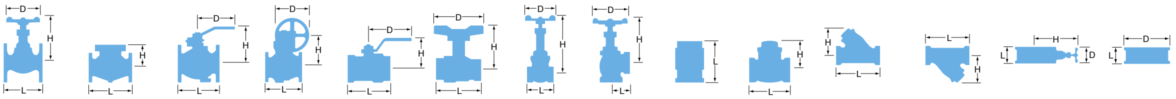
Size: ½^{B} to 5^{B}



Size: 6^{B} and 8^{B}

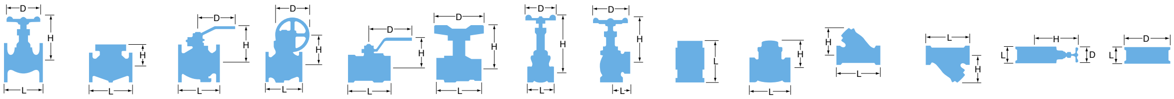


Note: Temperature is limited to 425°C (797°F) for SCTDZ6H(M).



TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			T			AKT			TT			TO			TF		
PRESSURE			Class 400			Class 400			Class 400			Class 400			Class 400		
END CONNECTION			BS21 (JIS B0203)			ASME B1.20.1			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	50	45	60	50	45	60	50	41	65	59	45	60	–	–	–
	⅜	10	50	45	60	50	45	60	50	41	65	60	45	60	–	–	–
	½	15	65	45	80	65	45	80	65	44	80	74	45	80	62	48	80
	¾	20	68	50	80	68	50	80	68	48	80	80	50	80	73	54	110
	1	25	79	60	110	79	55	110	79	55	90	94	55	110	85	58	110
	1¼	32	86	60	110	86	60	110	86	61	105	–	–	–	98	64	110
	1½	40	96	65	110	96	65	110	96	66	105	–	–	–	108	75	140
	2	50	109	75	140	109	75	140	109	80	120	–	–	–	124	84	150
	2½	65	127	91	200	127	91	200	–	–	–	–	–	–	–	–	–
	3	80	153	105	300	153	105	300	–	–	–	–	–	–	–	–	–
	4	100	179	124	400	179	124	400	–	–	–	–	–	–	–	–	–
BODY			Brass			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
BONNET			Forged Brass			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
STEM			Special Brass			Special Brass			Special Brass			Special Brass			Special Brass		
DISC			Brass			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
SEAT			PTFE			PTFE			PTFE			PTFE			PTFE		
			Standard Port			Reduced Port			Standard Port			Standard Port			Full Port		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			TG			TB			TL			CTL			TLT		
PRESSURE			Class 400			10K			Class 400			Class 400			Class 400		
END CONNECTION			BS21 (JIS B0203)			JIS B2240			BS21 (JIS B0203)			ASME B16.18			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	50	45	60	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	50	45	60	–	–	–	–	–	–	–	–	–	–	–	–
	½	15	65	45	80	110	85	130	56	75	80	58	75	80	56	79	82
	¾	20	68	50	80	120	88	130	65	79	80	73	79	80	65	83	82
	1	25	79	55	110	130	95	160	78	83	110	88	83	110	78	90	94
	1¼	32	86	60	110	140	100	160	86	98	110	99	98	110	86	105	94
	1½	40	96	65	110	165	115	230	96	102	110	114	102	110	96	109	94
	2	50	109	75	140	180	122	230	109	109	140	135	109	140	109	124	120
	2½	65	127	91	200	190	153	400	–	–	–	–	–	–	–	–	–
	3	80	153	105	300	200	162	400	–	–	–	–	–	–	–	–	–
	4	100	–	–	–	230	190	460	–	–	–	–	–	–	–	–	–
BODY			Forged Brass			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
BONNET			Forged Brass			Cast Bronze			Cast Bronze			Cast Bronze			Cast Bronze		
STEM			Special Brass			Special Brass			Special Brass			Special Brass			Special Brass		
DISC			Forged Brass			Forged Brass			Stainless Steel			Stainless Steel			Stainless Steel		
SEAT			PTFE			PTFE			PTFE			PTFE			PTFE		
			Standard Port			Full Port			Standard Port			Standard Port			Standard Port		

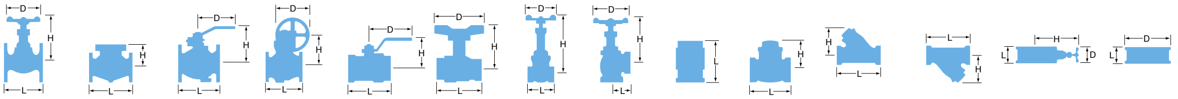


TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			TFJ			TH			TM			TK			AKTK		
PRESSURE			Class 150			Class 400			Class 400			Class 600			Class 600		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅛	6	–	–	–	–	–	–	–	–	–	32	31	60	–	–	–
	¼	8	–	–	–	44	41	60	–	–	–	39	31	60	39	31	60
	⅜	10	–	–	–	45	41	60	56	45	60	44	36	70	44	36	70
	½	15	62	53	65	56	45	80	60	45	80	56.5	41	85	56.5	41	85
	¾	20	73	58	65	63	48	80	68	49	80	59	44	85	59	44	85
	1	25	85	67	90	74	54	110	80	55	110	71	48	100	71	48	100
	1¼	32	98	72	90	82	58	110	86	60	110	78	54	100	78	54	100
	1½	40	108	90	110	91	63	110	101	65	110	83	65	125	83	65	125
	2	50	124	98.5	110	104	74	140	117	75	140	100	72	125	100	72	125
	2½	65	–	–	–	–	–	–	136	91	200	–	–	–	–	–	–
	3	80	–	–	–	–	–	–	160	105	300	–	–	–	–	–	–
BODY			Forged Brass			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
BONNET			Forged Brass			Forged Brass			Forged Brass			Brass Rod			Brass Rod		
STEM			Special Brass			Special Brass			Special Brass			Special Brass			Special Brass		
DISC			Forged Brass			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
SEAT			PTFE			PTFE			PTFE			G/R PTFE			PTFE		
			Full Port			Standard Port			Standard Port			Reduced Port			Reduced Port		

TYPE			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL		
Ball Valve																	
FIG			TKT			TKW			TN			AKTN			T4T		
PRESSURE			Class 600			Class 600			Class 400			Class 400			Class 400		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅛	6	32	23	35	32	25	35	–	–	–	–	–	–	–	–	–
	¼	8	39	23	35	39	25	35	40	30	60	40	30	60	–	–	–
	⅜	10	44	27	40	44	29	40	46	34	70	46	34	70	–	–	–
	½	15	56.5	31	60	56.5	35	55	67	45	80	67	45	80	70	52	130
	¾	20	59	34	60	59	39	55	68	48	80	68	48	80	85	56	130
	1	25	71	42	76	71	40.8	69	79	55	110	79	55	110	100	63	150
	1¼	32	78	48	76	–	–	–	89	60	110	89	60	110	115	68	150
	1½	40	83	53	100	–	–	–	100	65	110	100	65	110	130	94.5	230
	2	50	100	60	100	–	–	–	115	75	140	115	75	140	150	102	230
	2½	65	–	–	–	–	–	–	138	91	200	138	91	200	–	–	–
	3	80	–	–	–	–	–	–	166	105	300	166	105	300	–	–	–
BODY			Forged Brass			Forged Brass			Forged Brass			Forged Brass			Cast Bronze		
BONNET			Brass Rod			Brass Rod			Forged Brass			Forged Brass			Forged Brass		
STEM			Special Brass			Special Brass			Special Brass			Special Brass			Special Brass		
DISC			Forged Brass			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
SEAT			G/R PTFE			G/R PTFE			PTFE			PTFE			PTFE		
			Reduced Port			Reduced Port			Reduced Port			Reduced Port			Reduced Port		

TYPE			3WAY FLOATING BALL			3 PIECE FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			T4L			AK3TM			AKTAF			AKTAFM			SZA		
PRESSURE			Class 400			Class 600			Class 600			Class 600			Class 600		
END CONNECTION			BS21 (JIS B0203)			ASME B1.20.1			ASME B1.20.1			ASME B1.20.1			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	1.9	1.5	3.2	40.6	38.1	81.3	1.6	1.5	3.2	42	37	70
	⅜	10	–	–	–	1.9	1.5	3.2	40.6	38.1	81.3	1.6	1.5	3.2	42	37	70
	½	15	70	52	130	2.4	1.8	3.2	50.8	40.6	81.3	2	1.6	3.2	53	40	80
	¾	20	85	56	130	2.7	2.1	3.9	58.4	50.8	99.1	2.3	2	3.9	60	43	80
	1	25	100	63	150	3.2	2.4	5.1	71.1	58.4	129.5	2.8	2.2	5.1	72	50	110
	1¼	32	115	68	150	3.9	2.7	5.1	81.3	63.5	129.5	3.2	2.5	5.1	84	55	110
	1½	40	130	94.5	230	4.6	3	5.9	91.4	71.1	149.9	3.6	2.8	5.9	92	65	150
	2	50	150	102	230	5.4	3.3	5.9	104.1	78.7	149.9	4.1	3.1	5.9	110	72	150
	2½	65	–	–	–	–	–	–	–	–	–	–	–	–	138	101	200
	3	80	–	–	–	–	–	–	–	–	–	–	–	–	167	113	300
	4	100	–	–	–	–	–	–	–	–	–	–	–	–	193	131	300
BODY			Cast Bronze			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
BONNET			Forged Brass			Forged Brass			Forged Brass			Forged Brass			Forged Brass		
STEM			Special Brass			Special Brass			Special Brass			Steinless Steel			Brass Rod		
DISC			Forged Brass			Forged Brass			Forged Brass			Steinless Steel			Forged Brass		
SEAT			PTFE			PTFE			PTFE			PTFE			PTFE		
			Reduced Port			Full Port			Full Port			Full Port			Full Port		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			AKSZA			PN40SZA			AKSZAW			AKTAFLL			10FCT		
PRESSURE			Class 600			PN40			Class 600			Class 600			10K		
END CONNECTION			ASME B1.20.1			BS21 (JIS B0203)			ASME B1.20.1			ASME B1.20.1			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	42	37	70	–	–	–	42	34	55	41	39	81	–	–	–
	⅜	10	42	37	70	–	–	–	42	34	55	42	39	81	72	71	130
	½	15	53	40	80	53	40	80	53	40	70	53	42	81	80	102	130
	¾	20	60	43	80	60	43	80	60	44	70	60	51	100	85	105	130
	1	25	72	50	110	72	50	110	72	53	100	72	58	130	95	125	160
	1¼	32	84	55	110	84	55	110	84	58	100	82	64	130	120	130	160
	1½	40	92	65	150	92	65	150	92	74	130	92	73	150	120	115	230
	2	50	110	72	150	110	72	150	110	81	130	105	80	150	140	120	230
	2½	65	137	101	200	–	–	–	–	–	–	–	–	–	160	155	400
	3	80	167	113	300	–	–	–	–	–	–	–	–	–	182	165	400
	4	100	193	131	300	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Forged Brass			Forged Brass			Forged Brass			Forged Brass			FC200		
BONNET			Forged Brass			Forged Brass			Forged Brass			Forged Brass			FC200		
STEM			Brass Rod			Brass Rod			Brass Rod			Special Brass			SUS403		
DISC			Forged Brass			Forged Brass			Forged Brass			Forged Brass			SUS304 / SCS13A		
SEAT			PTFE			PTFE			PTFE			PTFE			PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		



Ball Seat
P.90

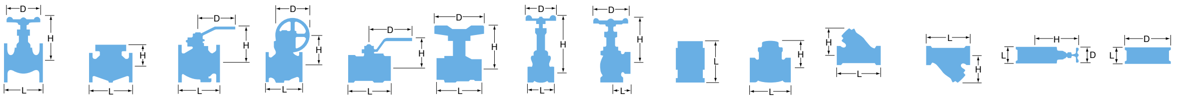
TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL		
Ball Valve																	
FIG			10FCTB			10FCTR			125FCTB			125FCTR			10FCTB2L		
PRESSURE			10K			10K			Class 125			Class 125			10K		
END CONNECTION			JIS B2239			JIS B2239			ASME B16.18			ASME B16.18			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	110	102	130	–	–	–	–	–	–	–	–	–	–	–	–
	¾	20	120	105	130	–	–	–	–	–	–	–	–	–	–	–	–
	1	25	130	124	160	–	–	–	–	–	–	–	–	–	–	–	–
	1¼	32	140	128	160	–	–	–	–	–	–	–	–	–	–	–	–
	1½	40	165	114	230	–	–	–	–	–	–	–	–	–	210	115	230
	2	50	180	121	230	–	–	–	178	120	230	–	–	–	220	120	230
	2½	65	190	154	400	–	–	–	190	155	400	–	–	–	250	155	400
	3	80	200	163	400	–	–	–	203	165	400	–	–	–	260	165	400
	4	100	230	199	460	–	–	–	229	200	460	–	–	–	330	200	460
	5	125	300	219	460	250	200	460	–	–	–	–	–	–	–	–	–
	6	150	340	292	1000	270	220	460	394	295	1000	267	220	460	–	–	–
	8	200	450	352	1500	290	295	1000	457	355	1500	292	295	1000	–	–	–
	10	250	–	–	–	330	355	1500	–	–	–	330	355	1500	–	–	–
BODY			FC200			FC200			FC200			FC200			FC200		
BONNET			FC200			FC200			FC200			FC200			FC200		
STEM			SUS403			SUS403			SUS403			SUS403			SUS403		
DISC			SUS304 / SCS13A			SUS304 / SCS13A			SUS304 / SCS13A			SUS304 / SCS13A			SCS13A		
SEAT			PTFE			PTFE			PTFE			PTFE			PTFE		
			Full Port			Reduced Port			Full Port			Reduced Port			Full Port		

TYPE			3WAY FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL		
Ball Valve																	
FIG			10FCTR2L			STZ			20ST			10STBF			10STB4TAF		
PRESSURE			10K			400LB			20K			10K			10K		
END CONNECTION			JIS B2239			BS21 (JIS B0203)			BS21 (JIS B0203)			JIS B2239			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	46	38	80	–	–	–	–	–	–	–	–	–
	⅜	10	–	–	–	51	38	80	–	–	–	–	–	–	–	–	–
	½	15	–	–	–	57	42	100	75	106	130	108	106	130	–	–	–
	¾	20	–	–	–	65	49	130	80	106	130	117	109	130	–	–	–
	1	25	–	–	–	76	52	130	90	107	130	127	130	160	–	–	–
	1¼	32	–	–	–	86	57	130	105	129	160	140	135	160	–	–	–
	1½	40	–	–	–	95	63	130	115	133	160	165	115	230	180	143	400
	2	50	–	–	–	115	68	150	130	114	230	178	120	230	200	152	400
	2½	65	–	–	–	–	–	–	–	–	–	190	153	400	240	183	460
	3	80	–	–	–	–	–	–	–	–	–	203	162	400	260	190	460
	4	100	–	–	–	–	–	–	–	–	–	229	199	460	330	259	1000
	5	125	370	205	460	–	–	–	–	–	–	356	219	460	–	–	–
	6	150	430	225	460	–	–	–	–	–	–	394	293	1000	–	–	–
	8	200	540	295	1000	–	–	–	–	–	–	457	352	1500	–	–	–
	10	250	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			FC200			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
BONNET			FC200			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
STEM			SUS403			Special Brass			SUS403			SUS304			SUS304		
DISC			SCS13A			C3771BE			SUS304 / SCS13A			SCS13A / SUS304			SCS13A / SUS304		
SEAT			PTFE			G/F PTFE			HYPATITE® PTFE			PTFE			HYPATITE® PTFE		
			Reduced Port			Reduced Port			Reduced Port			Full Port			Full Port		

Bronze & Brass
Cast Iron
Ductile Iron
Stainless Steel
Carbon Steel
Butterfly Valve
Ball Valve
Ball Valve Seat
Actuated Valve

TYPE			3WAY FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			10STB4LAF			10STR4TAF			10STR4LAF			10STLBF			20STLB		
PRESSURE			10K			10K			10K			10K			20K		
END CONNECTION			JIS B2239			JIS B2239			JIS B2239			JIS B2239			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	–	–	–	–	–	–	–	–	–	108	106	130	140	106	130
	¾	20	–	–	–	–	–	–	–	–	–	117	109	130	152	109	130
	1	25	–	–	–	–	–	–	–	–	–	127	130	160	165	130	160
	1¼	32	–	–	–	–	–	–	–	–	–	140	135	160	178	135	160
	1½	40	180	143	400	–	–	–	–	–	–	165	115	230	190	115	230
	2	50	200	152	400	–	–	–	–	–	–	178	120	230	216	120	230
	2½	65	240	183	460	–	–	–	–	–	–	190	153	400	241	153	400
	3	80	260	190	460	–	–	–	–	–	–	203	162	400	283	162	400
	4	100	330	259	1000	–	–	–	–	–	–	229	199	460	305	241	750
	5	125	–	–	–	340	259	1000	340	259	1000	356	219	460	–	–	–
	6	150	–	–	–	400	281	1000	400	281	1000	394	293	1000	403	293	1000
	8	200	–	–	–	450	323	1500	450	323	1500	457	352	1500	502	352	1500
BODY			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
BONNET			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron			Ductile Iron		
STEM			SUS304			SUS304			SUS304			SUS403			SUS403		
DISC			SCS13A / SUS304			SCS13A			SCS13A			SCS13A / SUS304			SUS304 / SCS13A		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			PTFE			HYPATITE® PTFE		
			Full Port			Reduced Port			Reduced Port			Full Port			Full Port		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			UTK			UTKM			UTKW			UTKMW			UTFM		
PRESSURE			Class 600			Class 600			Class 600			Class 600			Class 1000		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	39	31	60	39	31	60	39	25	35	39	25	35	–	–	–
	⅜	10	44	36	70	44	36	70	44	29	40	44	29	40	–	–	–
	½	15	56.5	41	85	56.5	41	85	56.5	35	55	56.5	35	55	62	53	100
	¾	20	59	44	85	59	44	85	59	39	55	59	39	55	73	63	130
	1	25	71	48	100	71	48	100	71	41	69	71	41	69	85	67	130
	1¼	32	78	54	100	78	54	100	–	–	–	–	–	–	98	75	150
	1½	40	83	65	125	83	65	125	–	–	–	–	–	–	108	81	150
	2	50	100	72	125	100	72	125	–	–	–	–	–	–	124	102	200
BODY			SCS13A			SCS14A			SCS13A			SCS14A			SCS14A		
BONNET			–			–			–			–			SCS14A		
STEM			SUS316 / SUS304			SUS316			SUS316 / SUS304			SUS316			SUS316		
DISC			SUS316 / SUS304			SUS316			SUS316 / SUS304			SUS316			SCS316 / SCS14A		
SEAT			G/F PTFE			G/F PTFE			G/F PTFE			G/F PTFE			HYPATITE® PTFE		
			Reduced Port			Reduced Port			Reduced Port			Reduced Port			Full Port		



Ball Seat
P.90

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL		
Ball Valve																	
FIG			UTH			UTHM			UTHL			UTH4LM			UTH4TM		
PRESSURE			Class 800			Class 800			Class 1000			Class 800			Class 800		
END CONNECTION			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	60	47	100	60	47	100	60	76	100	69	63	130	69	63	130
	¾	20	70	54	100	70	54	100	70	80	100	84	65	130	84	65	130
	1	25	80	63	130	80	63	130	80	85	130	96	75.5	150	96	75.5	150
	1¼	32	95	68	130	95	68	130	95	99	130	114	79.5	150	114	79.5	150
	1½	40	108	79	150	108	78	150	108	105	150	132	95.5	230	132	95.5	230
	2	50	124	85	150	124	85	150	124	113	150	150	101	230	150	101	230
BODY			SCS13A			SCS14A			SCS13A			SCS14A			SCS14A		
BONNET			SCS13A			SCS14A			SCS13A			SCS14A			SCS14A		
STEM			SUS304			SUS316			SUS304			SUS316			SUS316		
DISC			SUS304			SUS316			SUS304			SUS316 / SCS14A			SUS316 / SCS14A		
SEAT			PTFE			PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Reduced Port			Reduced Port			Reduced Port			Reduced Port			Reduced Port		

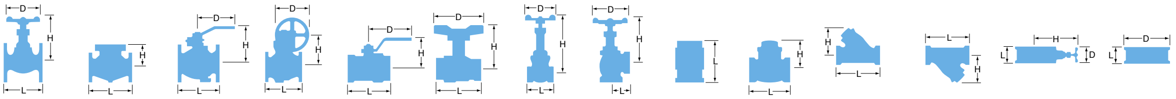
TYPE			3 PIECE FLOATING BALL			3 PIECE FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			U3TZM			SWU3TZM			10UT			10UTB / G-10UTB			10UTDZ		
PRESSURE			Class 1000			Class 1000			10K			10K			10K		
END CONNECTION			BS21 (JIS B0203)			JIS B2316			BS21 (JIS B0203)			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	–	–	–	–	–	–	62	71	130	–	–	–	–	–	–
	½	15	63	48	120	63	48	120	65	102	130	110	102	130	108	108	130
	¾	20	71	60	130	71	60	130	80	105	130	120	105	130	117	111	130
	1	25	90	69	130	90	69	130	90	124	160	130	124	160	127	124	160
	1¼	32	103	83	150	103	83	150	110	130	160	140	128	160	140	128	160
	1½	40	110	88	150	110	88	150	120	115	230	165	115	230	165	134	230
	2	50	127	104	180	127	104	180	140	120	230	180	120	230	178	143	230
	2½	65	–	–	–	–	–	–	160	155	400	190	155	400	190	179	400
	3	80	–	–	–	–	–	–	182	165	400	200	165	400	203	189	400
	4	100	–	–	–	–	–	–	–	–	–	230	200	460	229	224	460
	5	125	–	–	–	–	–	–	–	–	–	300	220	460	356	240	460
	6	150	–	–	–	–	–	–	–	–	–	340	295	1000	394	315	1000
	8	200	–	–	–	–	–	–	–	–	–	450	355	1500	457	406	1500
	10	250	–	–	–	–	–	–	–	–	–	533	477	500	–	–	–
BODY			SCS14A			SCS14A			SCS13A			SCS13A			SCS13A		
BONNET			SCS14A			SCS14A			SCS13A			SCS13A			SCS13A		
STEM			SUS316			SUS316			SUS304			SUS304			SUS304		
DISC			SUS316 / SCS14A			SUS316 / SCS14A			SUS304 / SCS13A			SUS304 / SCS13A			SUS304 / SCS13A		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Reduced Port			Reduced Port			Full Port			Full Port SIZE.10 Gear operation type			Full Port		

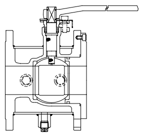
TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			10UTDZM			20UTDZ			20UTDZM			10UTR			20UTR		
PRESSURE			10K			20K			20K			10K			20K		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	108	130	140	108	130	140	108	130	–	–	–	–	–	–
	¾	20	117	111	130	152	111	130	152	111	130	–	–	–	–	–	–
	1	25	127	124	160	165	124	160	165	124	160	–	–	–	–	–	–
	1¼	32	140	128	160	178	128	160	178	128	160	–	–	–	–	–	–
	1½	40	165	134	230	190	134	230	190	134	230	–	–	–	–	–	–
	2	50	178	143	230	216	143	230	216	143	230	–	–	–	216	115	230
	2½	65	190	179	400	241	179	400	241	179	400	–	–	–	–	–	–
	3	80	203	189	400	283	189	400	283	189	400	203	155	400	283	155	400
	4	100	229	224	460	305	251	750	305	251	750	229	165	400	305	165	400
	5	125	356	240	460	381	267	750	381	267	750	250	200	460	–	–	–
	6	150	394	315	1000	403	315	1000	403	315	1000	270	220	460	403	260	750
	8	200	457	406	1500	502	406	1500	502	406	1500	290	295	1000	419	295	1000
	10	250	–	–	–	–	–	–	–	–	–	330	355	1500	–	–	–
BODY			SCS14A			SCS13A			SCS14A			SCS13A			SCS13A		
BONNET			SCS14A			SCS13A			SCS14A			SCS13A			SCS13A		
STEM			SUS316			SUS304			SUS316			SUS304			SUS304		
DISC			SUS316 / SCS14A			SUS304 / SCS13A			SUS316 / SCS14A			SUS304 / SCS13A			SUS304 / SCS13A		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Reduced Port			Reduced Port		

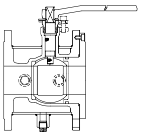
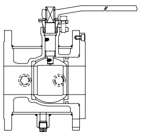
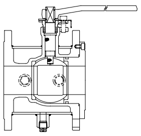
TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			150UTB / G-150UTB			150UTBM			150UTDZ / G-150UTDZ			150UTDZM / G-150UTDZM			300UTDZ		
PRESSURE			Class 150			Class 150			Class 150			Class 150			Class 300		
END CONNECTION			ASME B16.18			ASME B16.18			ASME B16.18			ASME B16.18			ASME B16.18		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	102	130	108	102	130	108	108	130	108	108	130	140	108	130
	¾	20	117	105	130	117	105	130	117	111	130	117	111	130	152	111	130
	1	25	127	124	160	127	124	160	127	124	160	127	124	160	165	124	160
	1¼	32	–	–	–	–	–	–	140	128	160	140	128	160	–	–	–
	1½	40	165	115	230	165	115	230	165	134	230	165	134	230	190	134	230
	2	50	178	120	230	178	120	230	178	143	230	178	143	230	216	143	230
	2½	65	190	155	400	190	155	400	190	179	400	190	179	400	241	179	400
	3	80	203	165	400	203	165	400	203	189	400	203	189	400	283	189	400
	4	100	229	200	460	229	200	460	229	224	460	229	224	460	305	251	750
	5	125	356	220	460	356	220	460	356	240	460	356	240	460	–	–	–
	6	150	394	295	1000	394	295	1000	394	315	1000	394	315	1000	403	315	1000
	8	200	457	355	1500	457	355	1500	457	406	1500	457	406	1500	502	406	1500
	10	250	533	477	500	–	–	–	533	448	500	533	448	500	–	–	–
BODY			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8		
BONNET			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8		
STEM			A276 TYPE304			TYPE316			A276 TYPE304			A276 TYPE316			A276 TYPE304		
DISC			TYPE304 / A351 Gr.CF8			TYPE316 / A351 Gr.CF8M			A276 TYPE304 / A351Gr.CF8			A276 TYPE316 / A351 Gr.CF8M			A276 TYPE304 / A351 Gr.CF8		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port SIZE.10 Gear operation type			Full Port			Full Port SIZE.10 Gear operation type			Full Port SIZE.10 Gear operation type			Full Port		

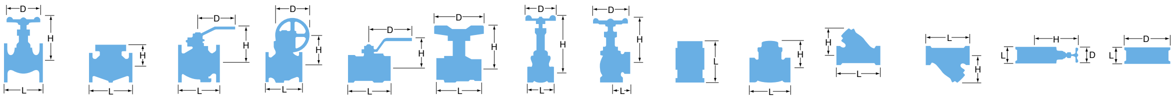
TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL		
Ball Valve																	
FIG			300UTDZM			150UTR			300UTR			10UTB2T			10UTB2TM		
PRESSURE			Class 300			Class 150			Class 300			10K			10K		
END CONNECTION			ASME B16.18			ASME B16.18			ASME B16.18			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	108	130	–	–	–	–	–	–	–	–	–	–	–	–
	¾	20	152	111	130	–	–	–	–	–	–	–	–	–	–	–	–
	1	25	165	124	160	–	–	–	–	–	–	165	124	160	165	124	160
	1½	40	190	134	230	–	–	–	–	–	–	210	115	230	210	115	230
	2	50	216	143	230	178	115	230	216	115	230	220	123	230	220	123	230
	2½	65	241	179	400	–	–	–	–	–	–	250	155	400	250	155	400
	3	80	283	189	400	203	155	400	283	155	400	260	165	400	260	165	400
	4	100	305	251	750	229	165	400	305	165	400	330	200	460	330	200	460
	5	125	–	–	–	254	200	460	–	–	–	–	–	–	–	–	–
	6	150	403	315	1000	267	220	460	403	260	750	–	–	–	–	–	–
	8	200	502	406	1500	292	295	1000	419	295	1000	–	–	–	–	–	–
	10	250	–	–	–	330	355	1500	457	355	1500	–	–	–	–	–	–
BODY			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8			SCS13A			SCS14A		
BONNET			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8			SCS13A			SCS14A		
STEM			A276 TYPE316			TYPE304			TYPE304			SUS304			SUS316		
DISC			A276 TYPE316 / A351 Gr.CF8M			TYPE304 / A351 Gr.CF8			TYPE304 / A351 Gr.CF8			SUS304 / SCS13A			SUS316 / SCS14A		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Reduced Port			Reduced Port			Full Port			Full Port		

TYPE			3WAY FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL		
Ball Valve																	
FIG			10UTB2L			10UTR2L			10UTB2LM			10UTB4LA			10UTB4LAM		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	–	–	–	–	–	–	–	–	–	120	128	160	120	128	160
	¾	20	–	–	–	–	–	–	–	–	–	140	132	160	140	132	160
	1	25	165	124	160	–	–	–	165	124	160	160	135	160	160	135	160
	1½	40	210	115	230	–	–	–	210	115	230	180	146	400	180	146	400
	2	50	220	123	230	–	–	–	220	123	230	200	155	400	200	155	400
	2½	65	250	155	400	–	–	–	250	155	400	240	185	460	240	185	460
	3	80	260	165	400	–	–	–	260	165	400	260	198	460	260	198	460
	4	100	330	200	460	–	–	–	330	200	460	330	267	1000	330	267	1000
	5	125	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	6	150	–	–	–	430	220	460	–	–	–	–	–	–	–	–	–
BODY			SCS13A			SCS13A			SCS14A			SCS13A			SCS14A		
BONNET			SCS13A			SCS13A			SCS14A			SCS13A			SCS14A		
STEM			SUS304			SUS304			SUS316			SUS304			SUS316		
DISC			SUS304 / SCS13A			SCS13A			SUS316 / SCS14A			SUS304 / SCS13A			SUS316 / SCS14A		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Reduced Port			Reduced Port			Full Port			Full Port		



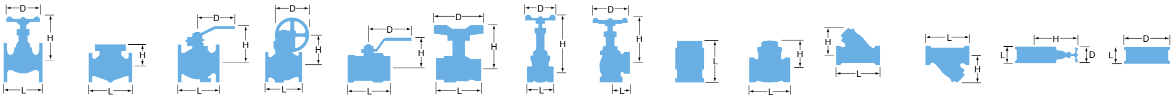
TYPE			3WAY FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			10UTB4TA			10UTB4TAM			10UTBLN			10UTBT			10UTBJ		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	120	128	160	120	128	160	140	104	130	–	–	–	110	131	130
	¾	20	140	132	160	140	132	160	152	106	130	–	–	–	120	135	130
	1	25	160	135	160	160	135	160	165	129	160	105	150	160	130	150	160
	1½	40	180	146	400	180	146	400	191	118	230	125	134	230	165	150	230
	2	50	200	155	400	200	155	400	216	124	230	143	143	230	180	157	230
	2½	65	240	185	460	240	185	460	240	157	400	160	177	400	190	188	400
	3	80	260	198	460	260	198	460	250	166	400	167	187	400	–	–	–
	4	100	330	267	1000	330	267	1000	280	204	460	176.5	222	460	–	–	–
	5	125	–	–	–	–	–	–	–	–	–	227	242	460	–	–	–
	6	150	–	–	–	–	–	–	–	–	–	265	312	1000	–	–	–
BODY			SCS13A			SCS14A			SCS13A			SCS13A			SCS13A		
BONNET			SCS13A			SCS14A			SCS13A			SCS13A			SCS13A		
STEM			SUS304			SUS316			SUS304			SUS304			SUS304		
DISC			SUS304 / SCS13A			SUS316 / SCS14A			SUS304 / SCS13A			SUS304 / SCS13A			SUS304 / SCS13A		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port PFA Lining			Full Port Tank Ball Valve L is dimentions except Tank pad			Full Port Jacketed		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			LAMBDA PORT			LAMBDA PORT		
Ball Valve																	
FIG			10UTBJM			150UTBJ			300UTBJ			L-10UVC			L-150UVC / G-150UVC		
PRESSURE			10K			Class 150			Class 300			10K			Class 150		
END CONNECTION			JIS B2220			ASME B16.18			ASME B16.18			JIS B2220			ASME B16.18		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	110	131	130	110	131	130	140	128	130	–	–	–	–	–	–
	¾	20	120	135	130	120	135	130	152	132	130	–	–	–	–	–	–
	1	25	130	150	160	130	150	160	165	150	160	127	181	160	127	181	160
	1½	40	165	150	230	165	150	230	190	150	230	165	199	230	165	199	230
	2	50	180	157	230	180	157	230	216	157	230	178	205	230	178	205	230
	2½	65	190	188	400	190	188	400	241	187	400	190	252	400	190	252	400
	3	80	–	–	–	–	–	–	283	212	400	203	259	400	203	259	400
	4	100	–	–	–	–	–	–	305	238	750	229	292	460	229	292	460
	5	150	–	–	–	–	–	–	403	261	1000	394	411	1000	394	411	1000
	6	200	–	–	–	–	–	–	–	–	–	457	483	1500	457	483	1500
	10	250	–	–	–	–	–	–	–	–	–	–	–	–	533	446	500
BODY			SCS14A			A351 Gr.CF8M			A351 Gr.CF8M			SCS13A			A351 Gr.CF8		
BONNET			SCS14A			A351 Gr.CF8M			A351 Gr.CF8M			SCS13A			A351 Gr.CF8		
STEM			SUS316			A276 TYPE304			A276 TYPE304			SUS316			TYPE316		
DISC			SUS316 / SCS14A			A276 TYPE304 / A351 Gr.CF8			A276 TYPE304 / A351 Gr.CF8			SCS14A			A351 Gr.CF8M		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			–			–		
			Full Port Jacketed			Full Port Jacketed			Full Port Jacketed						SIZE.10 Gear operation type		



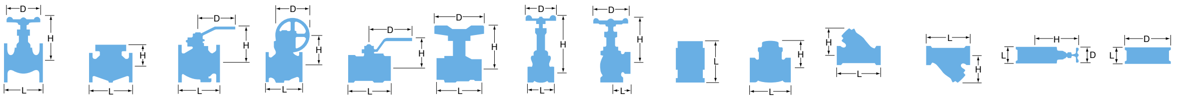
TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			10UTDZ1H			10UTDZ1HM			20UTDZ1H / G-20UTDZ1H			10UTDZ3H / G-10UTDZ3H			20UTDZ3H / G-20UTDZ3H		
PRESSURE			10K			10K			20K			10K			20K		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	108	130	108	108	130	140	108	130	108	108	130	140	108	130
	¾	20	117	111	130	117	111	130	152	111	130	117	111	130	152	111	130
	1	25	127	124	160	127	124	160	165	124	160	127	124	160	165	124	160
	1¼	32	140	128	160	140	128	160	178	128	160	140	128	160	178	128	160
	1½	40	165	134	230	165	134	230	190	134	230	165	134	230	190	139	600
	2	50	178	143	230	178	143	230	216	143	230	178	148	300	216	148	600
	2½	65	190	179	400	190	179	400	241	179	400	190	209	600	241	209	1000
	3	80	203	189	400	203	189	400	283	189	400	203	219	600	283	219	1000
	4	100	229	251	750	229	251	750	305	258	310	229	251	1000	305	286	360
	5	125	–	–	–	–	–	–	381	302	360	356	274	310	381	302	360
	6	150	–	–	–	–	–	–	403	332	500	394	335	360	403	360	500
	8	200	–	–	–	–	–	–	502	417	500	457	417	500	502	489	500
BODY			SCS13A			SCS14A			SCS13A			SCS13A			SCS13A		
BONNET			SCS13A			SCS14A			SCS13A			SCS13A			SCS13A		
STEM			SUS304			SUS316			SUS304			SUS304			SUS304		
DISC			SUS304 / SCS13A			SUS316 / SCS14A			SUS304 / SCS13A			SUS304 / SCS13A			SUS304 / SCS13A		
SEAT			FILLTITE® PTFE			FILLTITE® PTFE			FILLTITE® PTFE			CARBON+329J1			CARBON+329J1		
			Full Port			Full Port			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			10UTDZ5H / G-10UTDZ5H			20UTDZ5H / G-20UTDZ5H			10UTDZ6H / G-10UTDZ6H			10UTDZ6HM			20UTDZ6H / G-20UTDZ6H		
PRESSURE			10K			20K			10K			10K			20K		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	108	130	140	108	130	108	108	130	108	108	130	140	108	130
	¾	20	117	111	130	152	111	130	117	111	130	117	111	130	152	111	130
	1	25	127	124	160	165	124	160	127	124	160	127	124	160	165	124	160
	1¼	32	140	128	160	178	128	160	140	128	160	140	128	160	178	128	160
	1½	40	165	134	230	190	139	600	165	134	230	165	134	230	190	139	600
	2	50	178	148	300	216	148	600	178	148	300	178	148	300	216	148	600
	2½	65	190	209	600	241	209	1000	190	209	600	190	209	600	241	209	1000
	3	80	203	219	600	283	219	1000	203	219	600	203	219	600	283	219	1000
	4	100	229	251	1000	305	286	360	229	251	1000	229	251	1000	305	286	360
	5	125	356	302	360	381	299	500	356	302	360	–	–	–	381	299	500
	6	150	394	335	360	403	360	500	394	335	360	–	–	–	403	360	500
	8	200	457	417	500	502	489	500	457	417	500	–	–	–	502	489	500
BODY			SCS13A			SCS13A			SCS13A			SCS14A			SCS14A		
BONNET			SCS13A			SCS13A			SCS13A			SCS14A			SCS14A		
STEM			SUS630			SUS630			SUS630			SUS630			SUS630		
DISC			SUS316+Cr PLATING			SUS316+Cr PLATING			SUS316+Ni-Cr ALLOY			SUS316+Ni-Cr ALLOY			SUS316+Ni-Cr ALLOY		
SEAT			SUS316+Ni-Cr ALLOY			SUS316+Ni-Cr ALLOY			SUS316+Ni-Cr ALLOY			SUS316+Ni-Cr ALLOY			SUS316+Ni-Cr ALLOY		
			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			Full Port			Full Port SIZE.4 to 8 Gear operation type		



TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			150UTDZ / G-150UTDZ			150UTDZ1H / G-150UTDZ1H			150UTDZ1HM / G-150UTDZ1HM			300UTDZ1H			300UTDZ1HM		
PRESSURE			Class 150			Class 150			Class 150			Class 300			Class 300		
END CONNECTION			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	108	130	108	108	130	108	108	130	140	108	130	140	108	130
	¾	20	117	111	130	117	111	130	117	111	130	152	111	130	152	111	130
	1	25	127	124	160	127	124	160	127	124	160	165	124	160	165	124	160
	1¼	32	140	128	160	140	128	160	140	128	160	–	–	–	–	–	–
	1½	40	165	134	230	165	134	230	165	134	230	190	134	230	190	134	230
	2	50	178	143	230	178	143	230	178	143	230	216	143	230	216	143	230
	2½	65	190	179	400	190	179	400	190	179	400	241	179	400	241	179	400
	3	80	203	189	400	203	189	400	203	189	400	283	189	400	283	189	400
	4	100	229	251	750	229	251	750	229	251	750	–	–	–	–	–	–
	5	125	356	274	310	356	274	310	356	274	310	–	–	–	–	–	–
	6	150	394	335	360	394	335	360	394	335	360	–	–	–	–	–	–
	8	200	457	409	500	457	409	500	457	409	500	–	–	–	–	–	–
	10	250	533	456	500	533	456	500	533	456	500	–	–	–	–	–	–
BODY			A351 Gr.CF8			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
BONNET			A351 Gr.CF8			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
STEM			A276 TYPE304			A276 TYPE304			A276 TYPE316			A276 TYPE304			A276 TYPE316		
DISC			A276 TYPE304 / A351 Gr.CF8			A276 TYPE304 / A351 Gr.CF8			A276 TYPE316 / A351 Gr.CF8M			A276 TYPE304 / A351 Gr.CF8			A276 TYPE316 / A351 Gr.CF8M		
SEAT			HYPATITE® PTFE			FILLTITE® PTFE			FILLTITE® PTFE			FILLTITE® PTFE			FILLTITE® PTFE		
			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			FILLTITE PTFE SIZE.5 to 8 Gear operation type			Full Port			Full Port		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			150UTDZ3H / G-150UTDZ3H			150UTDZ3HM / G-150UTDZ3HM			300UTDZ3H / G-300UTDZ3H			300UTDZ3HM / G-300UTDZ3HM			150UTDZ5H / G-150UTDZ5H		
PRESSURE			Class 150			Class 150			Class 300			Class 300			Class 150		
END CONNECTION			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	108	130	108	108	130	140	108	130	140	108	130	108	108	130
	¾	20	117	111	130	117	111	130	152	111	130	152	111	130	117	111	130
	1	25	127	124	160	127	124	160	165	124	160	165	124	160	127	124	160
	1¼	32	140	128	160	140	128	160	–	–	–	–	–	–	140	128	160
	1½	40	165	134	230	165	134	230	190	139	600	190	139	600	165	134	230
	2	50	178	148	300	178	148	300	216	148	600	216	148	600	178	148	300
	2½	65	190	209	600	190	209	600	241	209	1000	241	209	1000	190	209	600
	3	80	203	219	600	203	219	600	283	219	1000	283	219	1000	203	219	600
	4	100	229	251	1000	229	251	1000	305	286	360	305	286	360	229	251	1000
	5	125	356	274	310	356	274	310	–	–	–	–	–	–	356	302	360
	6	150	394	335	360	394	335	360	403	360	500	403	360	500	394	335	360
	8	200	457	417	500	457	417	500	502	489	500	502	489	500	457	417	500
BODY			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			SCS13A		
BONNET			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8		
STEM			A276 TYPE304			A276 TYPE316			A276 TYPE304			A276 TYPE316			(JIS G4303 SUS630)		
DISC			A276 TYPE304			A276 TYPE316			A276 TYPE304			A276 TYPE316			A276 TYPE316+Cr PLATING		
SEAT			CARBON+(JIS SUS329J1)			CARBON+(JIS SUS329J1)			CARBON+(JIS SUS329J1)			CARBON+(JIS SUS329J1)			A276 TYPE316+Ni-Cr ALLOY		
			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.4 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type		



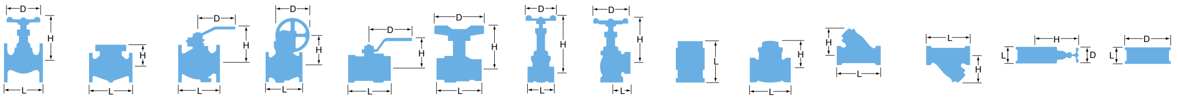
Ball Seat
P.90

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			150UTDZ5HM / G-150UTDZ5HM			300UTDZ5H / G-300UTDZ5H			300UTDZ5HM / G-300UTDZ5HM			150UTDZ6H / G-150UTDZ6H			150UTDZ6HM / G-150UTDZ6HM		
PRESSURE			Class 150			Class 300			Class 300			Class 150			Class 150		
END CONNECTION			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	108	130	140	108	130	140	108	130	108	108	130	108	108	130
	¾	20	117	111	130	152	111	130	152	111	130	117	111	130	117	111	130
	1	25	127	124	160	165	124	160	165	124	160	127	124	160	127	124	160
	1¼	32	140	128	160	–	–	–	–	–	–	140	128	160	140	128	160
	1½	40	165	134	230	190	139	600	190	139	600	165	134	230	165	134	230
	2	50	178	148	300	216	148	600	216	148	600	178	148	300	178	148	300
	2½	65	190	209	600	241	209	1000	241	209	1000	190	209	600	190	209	600
	3	80	203	219	600	283	219	1000	283	219	1000	203	219	600	203	219	600
	4	100	229	251	1000	305	286	360	305	286	360	229	251	1000	229	251	1000
	5	125	356	302	360	–	–	–	–	–	–	356	302	360	356	302	360
	6	150	394	335	360	403	360	500	403	360	500	394	335	360	394	335	360
	8	200	457	417	500	502	489	500	502	489	500	457	417	500	457	417	500
BODY			SCS14A			SCS13A			SCS14A			A351 Gr.CF8			A351 Gr.CF8M		
BONNET			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8M		
STEM			(JIS G4303 SUS630)			(JIS G4303 SUS630)			(JIS G4303 SUS630)			(JIS G4303 SUS630)			(JIS G4303 SUS630)		
DISC			A276 TYPE316+Cr PLATING			A276 TYPE316+Cr PLATING			A276 TYPE316+Cr PLATING			A276 TYPE316+Cr PLATING			A276 TYPE316+Cr PLATING		
SEAT			A276 TYPE316+Ni-Cr ALLOY			A276 TYPE316+Ni-Cr ALLOY			A276 TYPE316+Ni-Cr ALLOY			A276 TYPE316+Ni-Cr ALLOY			A276 TYPE316+Ni-Cr ALLOY		
			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.4 to 8 Gear operation type			Full Port SIZE.4 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.5 to 8 Gear operation type		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve														
FIG			300UTDZ6H / G-300UTDZ6H			300UTDZ6HM / G-300UTDZ6HM			150UTDZXL / G-150UTDZXL			300UTDZXL / G-300UTDZXL		
PRESSURE			Class 300			Class 300			Class 150			Class 300		
END CONNECTION			ASME B16.5			ASME B16.5			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	108	130	140	108	130	108	228	130	140	228	130
	¾	20	152	111	130	152	111	130	117	231	130	152	231	130
	1	25	165	124	160	165	124	160	127	268	160	165	268	160
	1¼	32	–	–	–	–	–	–	140	272	160	–	–	–
	1½	40	190	139	600	190	139	600	165	300	230	190	300	230
	2	50	216	148	600	216	148	600	178	309	230	216	309	230
	2½	65	241	209	1000	241	209	1000	190	373	400	241	373	400
	3	80	283	219	1000	283	219	1000	203	383	400	283	383	400
	4	100	305	286	360	305	286	360	229	258	750	305	466	310
	5	125	–	–	–	–	–	–	356	482	310	–	–	–
	6	150	403	360	500	403	360	500	394	572	360	403	569	500
	8	200	502	489	500	502	489	500	457	685	500	502	685	500
	10	250	–	–	–	–	–	–	533	724	500	–	–	–
BODY			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8		
BONNET			A351 Gr.CF8			A351 Gr.CF8M			A351 Gr.CF8			A351 Gr.CF8		
STEM			(JIS G4303 SUS630)			(JIS G4303 SUS630)			A276 TYPE304			A276 TYPE304		
DISC			A276 TYPE316+Cr PLATING			A276 TYPE316+Cr PLATING			A351 Gr.CF8			A276 TYPE304 / A351 Gr.CF8		
SEAT			A276 TYPE316+Ni-Cr ALLOY			A276 TYPE316+Ni-Cr ALLOY			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port SIZE.4 to 8 Gear operation type			Full Port SIZE.4 to 8 Gear operation type			Full Port SIZE.5 to 10 Gear operation type			Full Port SIZE.4 to 8 Gear operation type		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			SCTK			10SCTDZ			20SCTDZ			150SCTDZ / G-150SCTDZ			150SCTDZM		
PRESSURE			Class 600			10K			20K			Class 150			Class 150		
END CONNECTION			BS21 (JIS B0203)			JIS B2220			JIS B2220			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	39	31	60	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	44	36	70	–	–	–	–	–	–	–	–	–	–	–	–
	½	15	56.5	39	85	108	108	130	140	108	130	108	108	130	108	108	130
	¾	20	59	43	85	117	111	130	152	111	130	117	111	130	117	111	130
	1	25	71	48	100	127	124	160	165	124	160	127	124	160	127	124	160
	1¼	32	78	53	100	–	–	–	–	–	–	–	–	–	–	–	–
	1½	40	83	62	125	165	134	230	190	134	230	165	134	230	165	134	230
	2	50	100	70	125	178	143	230	216	143	230	178	143	230	178	143	230
	2½	65	–	–	–	190	179	400	241	179	400	190	179	400	190	179	400
	3	80	–	–	–	203	189	400	283	189	400	203	189	400	203	189	400
	4	100	–	–	–	229	224	460	305	251	750	229	224	460	229	224	460
	5	125	–	–	–	356	240	460	381	267	750	356	240	460	356	240	460
	6	150	–	–	–	394	315	1000	403	315	1000	394	315	1000	394	315	1000
	8	200	–	–	–	457	406	1500	502	406	1500	457	406	1500	457	406	1500
	10	250	–	–	–	–	–	–	–	–	–	533	448	500	–	–	–
BODY			SCPH2 (WCB)			SCPH2 (WCB)			SCPH2 (WCB)			A216 Gr.WCB			A216 Gr.WCB		
BONNET			–			SCPH2			SCPH2			A216 Gr.WCB			A216 Gr.WCB		
STEM			SUS316 / SUS304			SUS304			SUS304			A276 TYPE304			A276 TYPE316		
DISC			SUS316 / SUS304			SUS304 / SCS13A			SUS304 / SCS13A			A276 TYPE304 / A351 Gr.CF8			A276 TYPE316 / A351 Gr.CF8M		
SEAT			G/F PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Reduced Port			Full Port			Full Port			Full Port SIZE.10 Gear operation type			Full Port		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			300SCTDZ			300SCTDZM			10SCTDZ1H			20SCTDZ1H / G-20SCTDZ1H			150SCTDZ1H / G-150SCTDZ1H		
PRESSURE			Class 300			Class 300			10K			20K			Class 150		
END CONNECTION			ASME B16.5			ASME B16.5			JIS B2220			JIS B2220			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	108	130	140	108	130	108	108	130	140	108	130	108	108	130
	¾	20	152	111	130	152	111	130	117	111	130	152	111	130	117	111	130
	1	25	165	124	160	165	124	160	127	124	160	165	124	160	127	124	160
	1½	40	190	134	230	190	134	230	165	134	230	190	134	230	165	134	230
	2	50	216	143	230	216	143	230	178	143	230	216	143	230	178	143	230
	2½	65	241	179	400	241	179	400	190	179	400	241	179	400	190	179	400
	3	80	283	189	400	283	189	400	203	189	400	283	189	400	203	189	400
	4	100	305	251	750	305	251	750	229	251	750	305	258	310	229	251	750
	5	125	–	–	–	–	–	–	–	–	–	381	302	360	356	274	310
	6	150	403	315	1000	403	315	1000	–	–	–	403	332	500	394	335	360
	8	200	502	406	1500	502	406	1500	–	–	–	502	417	500	457	409	500
	10	250	–	–	–	–	–	–	–	–	–	–	–	–	533	456	500
BODY			A216 Gr.WCB			A216 Gr.WCB			SCPH2 (WCB)			SCPH2 (WCB)			A216 Gr.WCB		
BONNET			A216 Gr.WCB			A216 Gr.WCB			SCPH2			SCPH2			A216 Gr.WCB		
STEM			A276 TYPE304			A276 TYPE316			SUS304			SUS304			A276 TYPE304		
DISC			A276 TYPE304 / A351 Gr.CF8			A276 TYPE316 / A351 Gr.CF8M			SUS304 / SCS13A			SUS304 / SCS13A			A276 TYPE304 / A351 Gr.CF8		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			FILLTITE® PTFE			FILLTITE® PTFE			FILLTITE® PTFE		
			Full Port			Full Port			Full Port			Full Port SIZE.100 to 200 Gear operation type			Full Port SIZE.5 to 10 Gear operation type		



TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			300SCTDZ1H / G-300SCTDZ1H			10SCTDZ3H / G-10SCTDZ3H			20SCTDZ3H / G-20SCTDZ3H			150SCTDZ3H / G-150SCTDZ3H			300SCTDZ3H / G-300SCTDZ3H		
PRESSURE			Class 300			10K			20K			Class 150			Class 300		
END CONNECTION			ASME B16.5			JIS B2220			JIS B2220			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	108	130	108	108	130	140	108	130	108	108	130	140	108	130
	¾	20	152	111	130	117	111	130	152	111	130	117	111	130	152	111	130
	1	25	165	124	160	127	124	160	165	124	160	127	124	160	165	124	160
	1½	40	190	134	230	165	134	230	190	139	600	165	134	230	190	139	600
	2	50	216	143	230	178	148	300	216	148	600	178	148	300	216	148	600
	2½	65	241	179	400	190	209	600	241	209	1000	190	209	600	241	209	1000
	3	80	283	189	400	203	219	600	283	219	1000	203	219	600	283	219	1000
	4	100	305	258	310	229	251	1000	305	286	360	229	251	1000	305	286	360
	5	125	–	–	–	356	274	310	381	302	360	356	274	310	–	–	–
	6	150	403	332	500	394	335	360	403	360	500	394	335	360	403	360	500
	8	200	502	417	500	457	417	500	502	489	500	457	417	500	502	489	500
BODY			A216 Gr.WCB			SCPH2 (WCB)			SCPH2 (WCB)			A216 Gr.WCB			A216 Gr.WCB		
BONNET			A216 Gr.WCB			SCPH2			SCPH2			A216 Gr.WCB			A216 Gr.WCB		
STEM			A276 TYPE304			SUS304			SUS304			A276 TYPE304			A276 TYPE304		
DISC			A276 TYPE304 / A351 Gr.CF8			SUS304			SUS304			A276 TYPE304			A276 TYPE304		
SEAT			FILLTITE® PTFE			CARBON+329J1			CARBON+329J1			CARBON+(JIS SUS329J1)			CARBON+(JIS SUS329J1)		
			Full Port SIZE.4 to 8 Gear operation type			Full Port SIZE.125 to 200 Gear operation type			Full Port SIZE.100 to 200 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.4 to 8 Gear operation type		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve																	
FIG			10SCTDZ5H / G-10SCTDZ5H			20SCTDZ5H / G-20SCTDZ5H			150SCTDZ5H / G-150SCTDZ5H			300SCTDZ5H / G-300SCTDZ5H			10SCTDZ6H / G-10SCTDZ6H		
PRESSURE			10K			20K			Class 150			Class 300			10K		
END CONNECTION			JIS B2220			JIS B2220			ASME B16.5			ASME B16.5			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	108	130	140	108	130	108	108	130	140	108	130	108	108	130
	¾	20	117	111	130	152	111	130	117	111	130	152	111	130	117	111	130
	1	25	127	124	160	165	124	160	127	124	160	165	124	160	127	124	160
	1½	40	165	134	230	190	139	600	165	134	230	190	139	600	165	134	230
	2	50	178	148	300	216	148	600	178	148	300	216	148	600	178	148	300
	2½	65	190	209	600	241	209	1000	190	209	600	241	209	1000	190	209	600
	3	80	203	219	600	283	219	1000	203	219	600	283	219	1000	203	219	600
	4	100	229	251	1000	305	286	360	229	251	1000	305	286	360	229	251	1000
	5	125	356	302	360	381	299	500	356	302	360	–	–	–	356	302	360
	6	150	394	335	360	403	360	500	394	335	360	403	360	500	394	335	360
	8	200	457	417	500	502	489	500	457	417	500	502	489	500	457	417	500
BODY			SCPH2 (WCB)			SCPH2 (WCB)			A216 Gr.WCB			A216 Gr.WCB			SCPH2 (WCB)		
BONNET			SCPH2			SCPH2			A216 Gr.WCB			A216 Gr.WCB			SCPH2		
STEM			SUS630			SUS630			(JIS G4303 SUS630)			A276 TYPE304			SUS630		
DISC			SUS316+Cr PLATING			SUS316+Cr PLATING			A276 TYPE316+Cr PLATING			A276 TYPE304			SUS316+Ni-Cr ALLOY		
SEAT			SUS316+Ni-Cr ALLOY			SUS316+Ni-Cr ALLOY			A276 TYPE316+Ni-Cr ALLOY			CARBON+(JIS SUS329J1)			SUS316+Ni-Cr ALLOY		
			Full Port SIZE.125 to 200 Gear operation type			Full Port SIZE.100 to 200 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.4 to 8 Gear operation type			Full Port SIZE.125 to 200 Gear operation type		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Ball Valve											
FIG			20SCTDZ6H / G-20SCTDZ6H			150SCTDZ6H / G-150SCTDZ6H			300SCTDZ6H / G-300SCTDZ6H		
PRESSURE			20K			Class 150			Class 300		
END CONNECTION			JIS B2220			ASME B16.5			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D
	½	15	140	108	130	108	108	130	140	108	130
	¾	20	152	111	130	117	111	130	152	111	130
	1	25	165	124	160	127	124	160	165	124	160
	1½	40	190	139	600	165	134	230	190	139	600
	2	50	216	148	600	178	148	300	216	148	600
	2½	65	241	209	1000	190	209	600	241	209	1000
	3	80	283	219	1000	203	219	600	283	219	1000
	4	100	305	286	360	229	251	1000	305	286	360
	5	125	381	299	500	356	302	360	–	–	–
	6	150	403	360	500	394	335	360	403	360	500
	8	200	502	489	500	457	417	500	502	489	500
BODY			SCPH2 (WCB)			A216 Gr.WCB			A216 Gr.WCB		
BONNET			SCPH2			A216 Gr.WCB			A216 Gr.WCB		
STEM			SUS630			(JIS G4303 SUS630)			(JIS G4303 SUS630)		
DISC			SUS316+Ni-Cr ALLOY			A276 TYPE316+Cr PLATING			A276 TYPE316+Cr PLATING		
SEAT			SUS316+Ni-Cr ALLOY			A276 TYPE316+Ni-Cr ALLOY			A276 TYPE316+Ni-Cr ALLOY		
			Full Port SIZE.100 to 200 Gear operation type			Full Port SIZE.5 to 8 Gear operation type			Full Port SIZE.4 to 8 Gear operation type		

KITZ
GENERAL CATALOG

BALL VALVE SEAT

Ball Valve Seat

TYPE	PTFE	HYPATITE® PTFE	C/F PTFE	FILLTITE® (1H)
	Polytetrafluoroethylene resin	HYPATITE® Polytetrafluoroethylene resin	Carbon fiber filled Polytetrafluoroethylene resin	Polytetrafluoroethylene resin with carbon based special filler
BALL VALVE SEAT				
	• PTFE seats possess high chemical resistance and excellent sealing performance	• HYPATITE® seats are made of modified PTFE. • HYPATITE® seats has an excellent resistance to creep or compression and abrasion service, featuring of high elasticity and resilience. HYPATITE® seats also have good chemical resistance, so they can be used for as widerange of chemicals as PTFE. * HYPATITE® PTFE is a registered trademark of KITZ Corporation.	• This ball seat is made of PTFE reinforced with carbon. • The seat has high mechanical strength and abrasion resistance.	• FILLTITE® seats can be used at a temperature as high as 300°C, the highest service temperature among PTFE based ball seats. The ball seats are used in Class JIS 10K・20K / ASME Class 150・300 ductile iron, stainless steel and carbon steel floating ball valves.
	The ball seats are used in bronze, brass and cast iron floating ball valves Maximum Service Temperature: 200°C	The ball seats are used in Class JIS 10K・20K / ASME Class150・300 ductile iron, stainless steel and carbon steel floating ball valves. Maximum Service Temperature: 270°C	The ball seats are used in Class JIS 10K・20K / ASME Class 150・300 ductile iron, stainless steel and carbon steel floating ball valves. Maximum Service Temperature: 270°C	The ball seats are used in Class JIS 10K・20K / ASME Class 150・300 ductile iron, stainless steel and carbon steel floating ball valves. Maximum allowable seat leakage ・For oil-free valves: ANSI /FCI 70-2 Class VI. (Test media, Air) Maximum Service Temperature: 300°C

TYPE	CARBOTITE (3H)	Metal seat (5H)	Metal seat (6H)	SWELLESS® seat	PEEK seat
	Hard carbon	Hard faced metal seat	Hard faced metal seat		Polyetheretherketone resin
BALL VALVE SEAT					
	• CARBOTITE seats are made of hard carbon with excellent heat resistance. Maximum service temperature is 500°C. The leakage may increase when valves are exposed to an oxidized service at a higher temperature than 450°C for extended periods	• The surface of the 316 stainless steel seats is hard faced by thermal-spraying with nickel and chrome alloys for 300°C high temperature service. • The seat has high abrasion resistance so that it can handle fluids including foreign particles.	• The ball and ball seat surfaces are hard faced by thermal-spraying with nickel and chrome alloys, which enables valves to be used at a temperature of 500°C. • Valves with the 6H seats are excellent in high abrasion and high temperature services so that they can be used for fluids including foreign particles and application of heated steam.	• SWELLESS® seats have excellent resistance to the permeation of monomer, such as Styrene or Butadiene, into the molecular structure of the ball seat materials, which is known as a "swelling" problem. • Excellent sealing performance, operability and chemical resistance have been achieved by using fluoride resin as the base for the ball seat.	• PEEK seats have high mechanical strength at a wide range of temperatures. • The seat has excellent heat and chemical resistance, conforming with the requirements of UL94-VO for its flame retardancy
	The ball seats are used in Class JIS 10K・20K / ASME Class 150・300 stainless steel and carbon steel floating ball valves. Maximum allowable seat leakage ANSI /FCI 70-2 Class VI. (Test media, Air) Maximum Service Temperature: 500°C	The ball seats are used in Class JIS 10K・20K / ASME Class 150・300 stainless steel and carbon steel floating ball valves. Maximum allowable seat leakage • ANSI /FCI 70-2 Class VI. (Test media, Air) • For oil-free valves:21.75ml/min. x port diameter (inch) x differential pressure (MPa) Maximum Service Temperature: 300°C	The ball seats are used in Class JIS 10K・20K / ASME Class 150・300 stainless steel and carbon steel floating ball valves. Maximum allowable seat leakage • ANSI /FCI 70-2 Class VI. (Test media, Air) • For oil-free valves:21.75ml/min. x port diameter (inch) x differential pressure (MPa) Maximum Service Temperature: 500°C	The ball seats are used in Class JIS 10K・20K / ASME Class 150・300 stainless steel and carbon steel floating ball valves. Maximum Service Temperature: 260°C	The ball seats are used in Class ASME Class 150・300 stainless steel and carbon steel floating and trunnion mounted ball valves. Maximum Service Temperature: 270°C

KITZ
GENERAL CATALOG

ACTUATED VALVE

KITZ 10K Compact Ball Valves

Valve Design Features

- Convenient size range from ¼^{B} through 2^{B}.
- Integral actuator mounting pads, which enable easy mounting or dismounting of actuators for speedy maintenance.
- Tight contact between PTFE ball seats and high-precision-machined balls for leakage-free service.
- Stems, made of high-strength brass, are used for a long service life.
- Choice of materials: Stainless steel for corrosion-resistant service, or brass and bronze for general W.O.G. service.

Valve Design Specifications

Threaded ends:	JIS B 0203
Union ends:	JIS B 2301
Maximum service pressure:	1.0 MPa TKE, TKVE & TKSE for ¾^{B} and larger, 5UTWE: 0.5 MPa

Ball Valve Design and Applications

KITZ Fig.	JIS Material	Port	Bore*	Neck	End connection	Applications	Electric Actuator	Pneumatic Actuator
TE	CAC406	2-way	S.B.	Short	Threaded	On-off control of water, oil, and gas.	EA EAB EAL EALB ED** EAE***	Type C & CS (FBS)
TFE	C3771BE or CAC406		F.B.					
TLE	CAC406		S.B.	Long		Insulation for thermal isolation.		
TNE		Horizontal 3-way		Short		Instantaneous change of line fluid.		
TGE		2-way				High temperature service.		
TUE			R.B.		Male and female threaded with a union ring	Easy installation.		Type C & CS
TLUE				Long		TUE with insulation for thermal isolation.		
TKE	Chrome plating C3771BE			Short	Threaded	On-off control of water, oil, and gas. M5 tapped for panel mounting.	EC	
TKVE		Vertical 3-way				Instantaneous change of line fluid. (Free from concern of fluid mixing.)	ECS	
TKSE		2-way				On-off control of water, oil, and gas. M5 tapped for panel mounting.	EAE***	
TNVE	CAC406	Vertical 3-way	S.B.			Instantaneous change of line fluid. (Free from concern of fluid mixing.)	EAH EAHB	
UTE	SCS14A	2-way	R.B.			TE made of stainless steel.	EA EAB EAL EALB ED** EAE***	Type C & CS (FBS)
UTFE			F.B.			TEE made of stainless steel.		
UTNE		Horizontal 3-way	S.B.			TNE made of stainless steel.		
UTGE		2-way	R.B.			TGE made of stainless steel.		
5/10UTWE	SCS13A		F.B.		Wafer	Full bore wafer design. Easy maintenance.		
UTVE	SCS14A	Vertical 3-way	R.B.		Threaded	Integrally molded body. Instantaneous change of fluid. (Free from concern of fluid mixing.)	EAH EAHB	

* Bore design: F.B.=Full bore, S.B.=Standard bore, R.B.=Reduced bore to API 608.
** ED Series are available only for TE, TNE, UTE, UTFE, UTGE and 5/10UTWE ball valves.
*** EAE Series are available only for TE, TNE, TUE, TKSE and UTE ball valves.

Applications

Automated on-off or three-way flow control in HAVC service handling water, oil, gas, and air (by brass and bronze valves) or in light-load industrial processes for pharmaceutical, fine chemical, petrochemical, food, beverage, textile, and other general industries.

Precautions

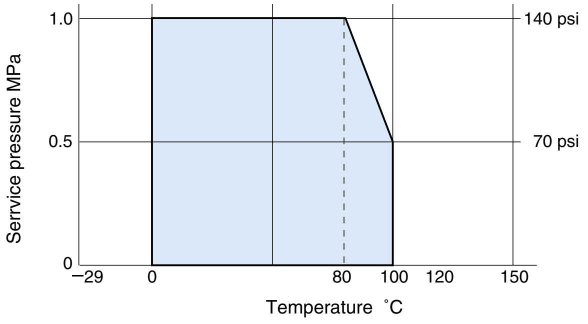
① No application to fluids including powders, dirt, or sands.

② ● High viscosity fluid, steam, or vacuum
- Operational frequency higher than 10 times an hour
- Velocity of 3 m/s or higher
- Service with concern of an extraordinary pressure rise of line fluid or a variation of fluid temperature higher than 80˚C.
- For voltages other than the KITZ standard specification, contact KITZ or its local distributors for technical advice on application to the following:

PTFE Seat Pressure-temperature Ratings

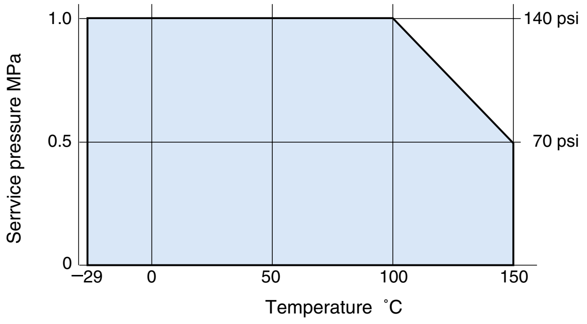
Valve: TE･TFE･TLE･TNE･TUE･TLUE
UTE･UTFE･UTNE･5/10UTWE

- Fluid: water, oil, or gas (unfrozen)
- Ball seat: PTFE (Standard)
- O-ring: FKM (Standard)



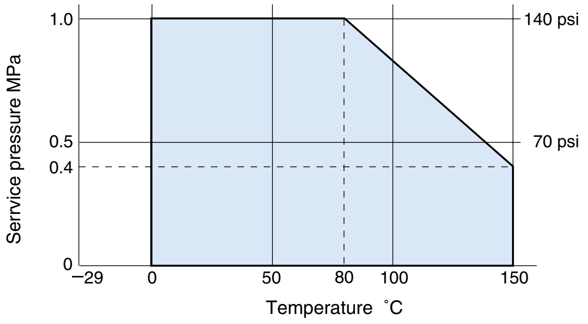
Valve: TGE

- Fluid: water, oil, or gas (unfrozen)
- Ball seat: reinforced PTFE
- Gland packing: Flexible graphite + PTFE braided packing



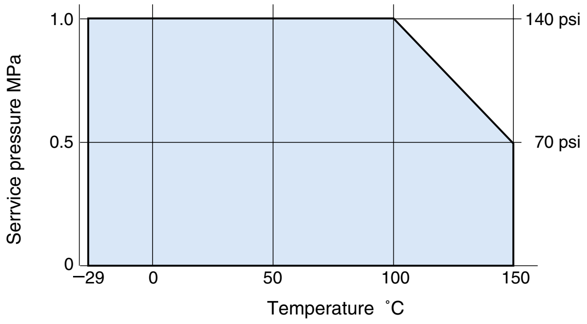
Valve: TE･TFE･TLE･TNE･TUE･TLUE
UTE･UTFE･UTNE･5/10UTWE

- Fluid: water, oil, or gas (unfrozen) or saturated steam
- Ball seat: reinforced PTFE (Option*)
- O-ring: FKM (Option*)



Valve: UTGE

- Fluid: water, oil, or gas (unfrozen)
- Ball seat: reinforced PTFE
- Gland packing: Flexible graphite + PTFE braided packing



*Specify these materials in your order for the P-T ratings covered by the graph shown above, except for 1½^B and 2^B. Standard materials are only available for these sizes.

Note:
- Please refer to our website (www.kitz.co.jp) or contact KITZ for PTFE pressure-temperature ratings of TKE, TKVE and TKSE.
- Serviceable ambient temperature depends on the design of actuators. Refer to the information given for each of actuators introduced in this catalog.

Actuated Valve

KITZ Three-way Compact Ball Valves: Change in Flow Directional Form

KITZ horizontal three-way ball valves are used primarily for a quick change in the flow direction. Furthermore, three-way ball valves can be used for simplification of piping systems, as shown in Fig. 1.

KITZ Figs. TNE, TNVE, TKVE, UTNE, and UTVE three-way ball valves are provided with an L-port and double face seating design for achieving a change in the flow direction between Forms 1 and 2. It should be noted if the line pressure of the closed bore is higher than the open bore, slight fluid leakage may occur from the closed bore. (Fig. 2)

Fig. 1

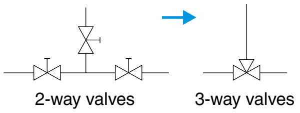
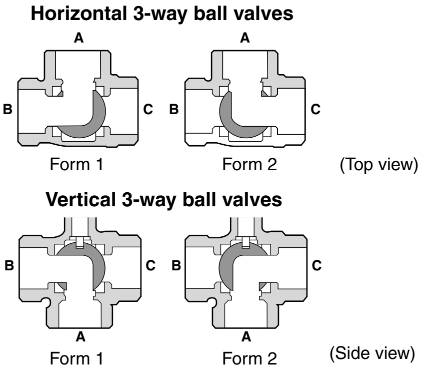


Fig. 2


Horizontal 3-way ball valves

(Top view)

Vertical 3-way ball valves

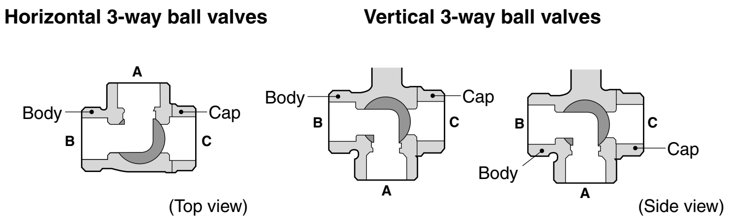
(Side view)

KITZ 3-way Compact Ball Valves: Flow Directional Form

Shipment shall be made with the flow directional form fixed as illustrated here. (Fig. 3)

Location of cord connectors (top view):
Horizontal 3-way: Size 1 & 1.5: Right hand side
Size 2: Diagonally forward right
Vertical 3-way: Size 1: Right hand side
Size 2: Diagonally forward left

Fig. 3


Horizontal 3-way ball valves

Vertical 3-way ball valves

(Top view)

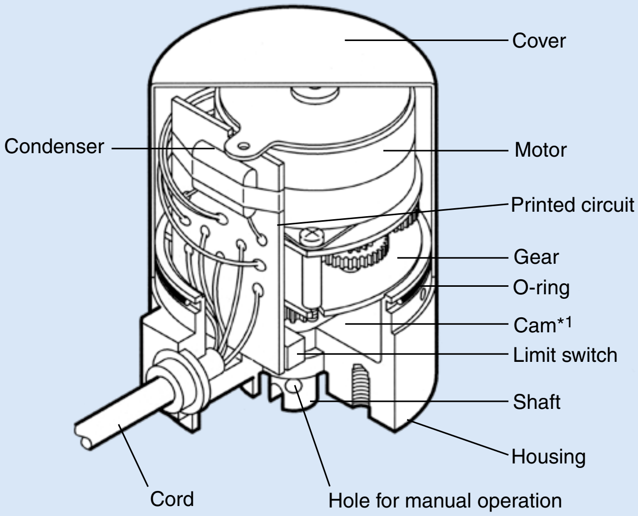
(Side view)

KITZ KELMO® Electric Actuators: EA and ED Series

General design features

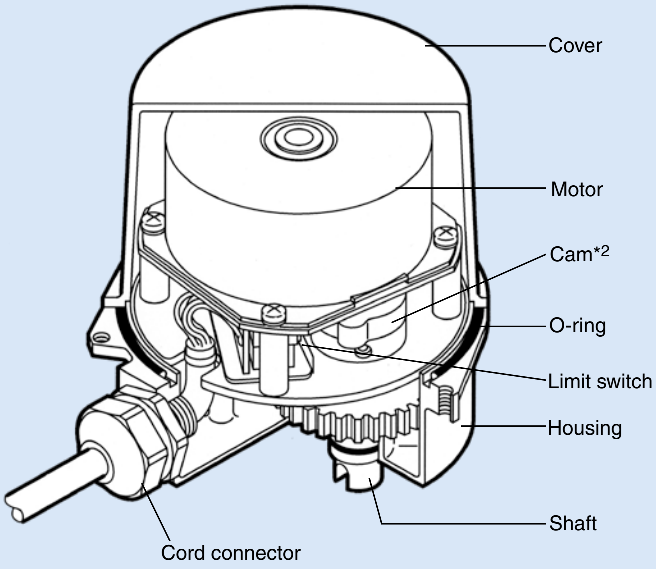
- Compact size and light weight with die-cast aluminum housing and powerful miniature motor for economy and handling ease.
- Simple mechanism with minimized number of component parts for high durability and trouble-free service.
- Free from concerns common to conventional solenoid valves, such as water hammer, pressure loss, malfunction caused by jammed valve interior, and restricted flow direction.
- All-weather-type design for outdoor service.
- Availability of manual operation in the case of electric failure.
- Versatile applications by means of optional built-in relay circuit for parallel drive, terminal boxes, and 180˚ rotary mechanism for three-way flow direction.
- Safety provision to protect the motor from overheating damage caused by accidental overload.
- Factory-made actuator-to-valve assembly for off-the-shelf supply.

KITZ KELMO® Electric Actuators



Type EA100 / 200 Size 1 & 1.5

*1 Different cam design for Type EAH100 / 200-1



Type EA100 / 200 Size 2

*2 Different cam design for Type EAH100 / 200-2

Compact KELMO® actuators: power sources and functional features

Type of actuator		* Power source	Functional features
EA Series	EA100 / EA200	100 V AC 200 V AC (50 Hz / 60 Hz)	90°bi-directional rotation
	EAB100 / EAB200		90°bi-directional rotation / Terminal box
	EAL100 / EAL200		90°bi-directional rotation / Built-in relay
	EALB100 / EALB200		90°bi-directional rotation / Built-in relay / Terminal box
	EAH100 / EAH200		180°bi-directional rotation
	EAHB100 / EAHB200		180°bi-directional rotation / Terminal box
	EAE100 / EAE200	100 V / 200 V AC (50 Hz / 60 Hz)	90°bi-directional rotation / Spring-return
ED Series	ED12 / ED24	12 V / 24 V DC	90°bi-directional rotation / Parallel drive

* Optional Specification (EA Series)
110 V AC (50/60 HZ)
115 V AC* (50/60 HZ)
120 V AC (50/60 HZ)
230 V AC* (50/60 HZ)
240 V AC (50/60 HZ)

* EA100/200-1 only

Actuated Valve

Type EA Electric Actuators / 10K Bronze or Stainless Steel Ball Valves

■ ***90° bi-directional rotation*** 100 V / 200 V AC 50 Hz / 60 Hz

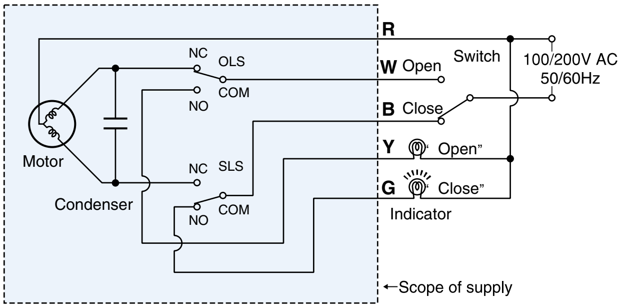
Type EA actuator design specifications

Specification \ Type		EA100-1	EA200-1	EA100-1.5	EA200-1.5	EA100-2	EA200-2
Power source 50 Hz / 60 Hz		100 V AC	200 V AC	100 V AC	200 V AC	100 V AC	200 V AC
Rated current		90 mA	50 mA	90 mA	50 mA	100 mA	50 mA
Max. power consumption		9 W	10 W	9 W	10 W	10 W	
Valve closing time 90°	50 Hz	Approx. 6 sec		Approx. 12 sec		Approx. 15 sec	
	60 Hz	Approx. 5 sec		Approx. 10 sec		Approx. 13 sec	
Max. output torque		1.9 N·m		3.9 N·m		9.8 N·m	
Rated time		Continuous					
Insulation class		JIS Class E					
Sensitive switch contact capacity		125 V AC / 2 A (Resistance load) 250 V AC / 0.6 A (Resistance load)				125 V AC / 2 A (Resistance load) 250 V AC / 2 A (Resistance load)	
Position limit switch		1 unit each for opening / closing (Using the same power source as that of the actuator)					
Insulation strength		1500 V AC (1 min. interval)					
Insulation resistance		Minimum 10 MΩ (500 V DC)					
Standard protection		All weather type (for outdoor use, avoid sunlight)					
Ambient temperature		−20℃ to ＋50℃					
Mounting position		Vertical to horizontal					
Wiring		Vinyl cabtyre cord with 5 cores, 700 mm in length					
		0.3 mm^2				0.5 mm^2	
Lubrication		Grease					
Overload protection		Impedance protection					
Coating color		Housing: black Cover: light blue					

Note: Contact KITZ for technical advice when the service conditions differ from the above.

Type EA actuator circuit diagrams (with the valve fully closed)

EA100 / 200 Size 1 to 2



Note: For all sizes of Type EAB 100 / 200, the terminals are numbered 1, 2, 3, 4 and 5 in place of R, W, B, Y, and G respectively.

- Wire color: **R** red **W** white **B** black **Y** yellow **G** green
- Actuator rotates:
  R-W: counter-clockwise to fully open the valve
  R-B: clockwise to fully close the valve
- Limit switches activate:
  OLS: on fully opening the valve (R-W: off W-Y: on)
  SLS: on fully closing the valve (R-B: off B-G: on)

Note:
- When two or more actuators are operated by a single switch, ensure to prevent unintended current flows by using relay contacts.
- Auxiliary devices, such as lamps or relays, where minute current is used, may cause failure in the contacts of limit switches. Consult KITZ for such applications.

Type ED Electric Actuators / Class 10K Bronze or Stainless Steel Ball Valves

■ ***DC 12V or 24V for handy, on-the-spot automated valve operation*** 12 V / 24 V DC

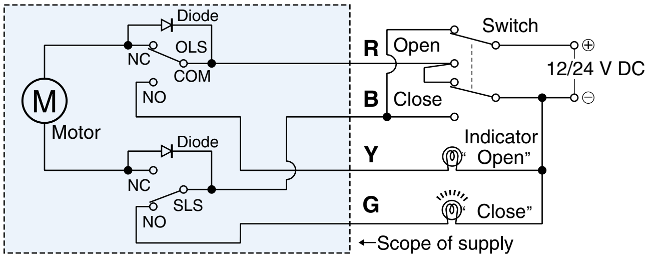
Type ED actuator design specifications

Specification \ Type	ED12-1	ED24-1	ED12-2	ED24-2
Power source 50 Hz / 60 Hz	12 V DC	24 V DC	12 V DC	24 V DC
Rated current	360 mA	140 mA	520 mA	260 mA
Starting current	0.4 A	0.5 A	1.9 A	0.95 A
Max. power consumption	5 W	4 W	9 W	10 W
Valve closing time 90° 50 Hz	Approx. 5 sec			
Max. output torque	1.4 N·m		7.3 N·m	
Rated time	5 min			
Insulation class	JIS Class E			
Position limit switch	1 unit each for opening / closing (Using the same power source as that of the actuaor)			
Insulation strength	250 V DC (1 min. interval)		500 V DC (1 min. interval)	
Insulation resistance	Minimum 10 MΩ (250 V DC)			
Standard protection	All weather type (for outdoor use)			
Ambient temperature	−20℃ to +50℃			
Mounting position	Vertical to horizontal			
Wiring	Vinyl cabtyre cord with 5 cores		UL approved noninflammable cord with 5 cores	
	$0.3\ mm^2$		$0.5\ mm^2$	
Lubrication	Grease			
Overload protection	Impedance protection		Thermal protection	
Coating color	Housing: black Cover: light blue			

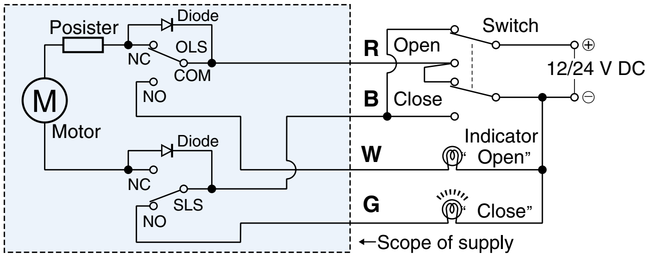
Note: Type ED12-2 and ED24-2 are optionally available for mobile application.
Don't spray high pressure water directly to Type ED actuator during car wash.

Type ED actuator circuit diagrams (with the valve fully closed)

ED 12 / 24 Size 1

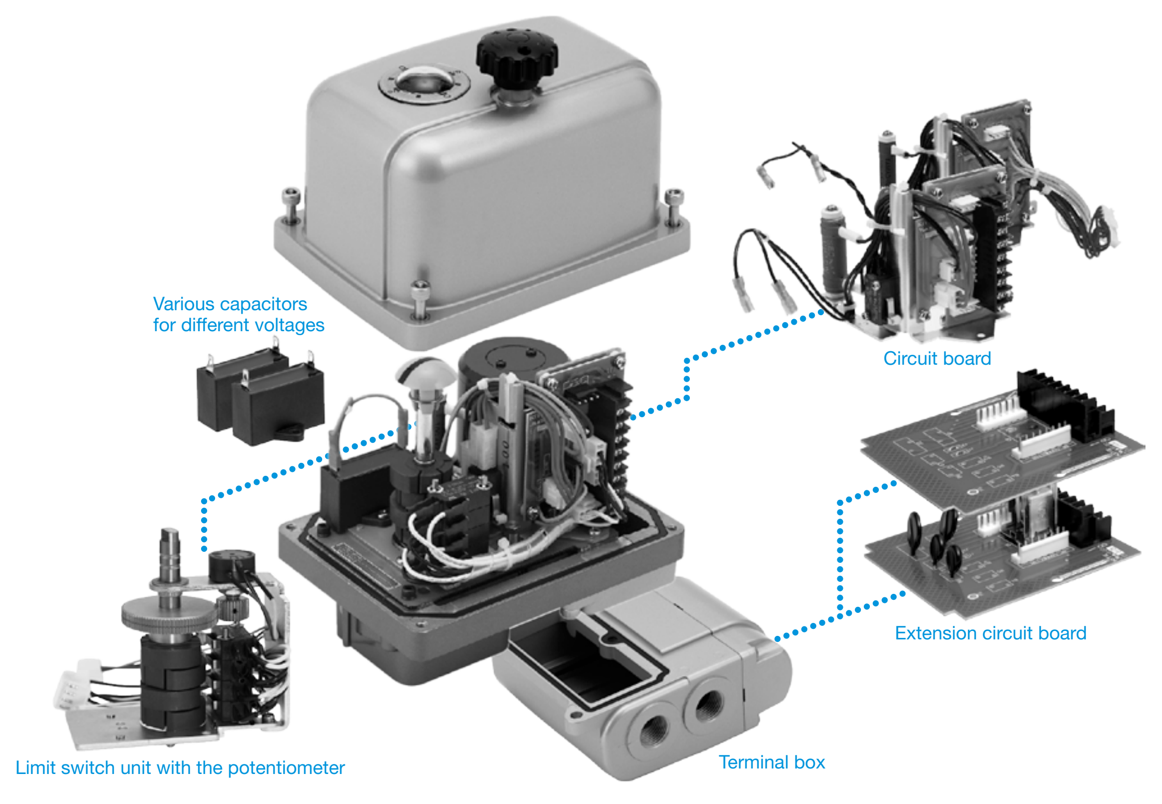


ED 12 / 24 Size 2



- Wire color: **R** red **W** white **B** black **Y** yellow **G** green
- Actuator rotates:
  R⊕ - **B**⊖: Counter-clockwise to fully open the valve
  R⊖ - **B**⊕: Clockwise to fully close the valve
- Limit switches activate:
  OLS: on fully opening the valve (R-B: off R-Y(W): on)
  SLS: on fully closing the valve (R-B: off B-G: on)

The adoption of common parts and part modularization have enabled flexible modification, which will widen the applications of the actuator.



Optional specification

Power supply EXH EXS

AC110 V 50/60 Hz
AC115 V 50/60 Hz
AC120 V 60 Hz
AC220 V 50/60 Hz
AC230 V 50/60 Hz
AC240 V 50 Hz

AC115 V 50 Hz, AC120 V 60 Hz, AC230 V 60 Hz, AC240 V
Allowable fluctuation of supply voltage is limited within between minus 10% and plus 5% for 50 Hz.

Relays EXH EXS

Relays (on/off by a–contact) can be provided in the actuator by using extension circuit boards

Limit switch specification EXH EXS

Contact for Micro load (Minute electrical current)
Two standard limit switches can be replaced by optional limit switches for micro load (minute electrical current)

Potentio–meter output EXH EXS

135 Ω (Coil type)
500 Ω (Coil type)

The valve opening degree is indicated by resistance value.

Auxiliary limit switch specification EXH EXS

Two more additional limit switches can be added.
Switches for micro load application are also available.
Including four standard limit switches, total six switches can be used.
(In case the potentio-meter is used, four limit switches in total can be used at maximum.)

Terminal box EXH

G1/2 two conduit ports
G3/4 one conduit port
NPT1/2 two conduit ports
NPT3/4 one conduit port
M20 one conduit port

Terminal box with two G1/2 conduit ports is equipped as standard for EXS type.
For EXH type, the use of the terminal box will enable the actuator to connect cables without removing the cover and to extend the actuator functions by using optional circuit boards.

Conduit port EXH EXS

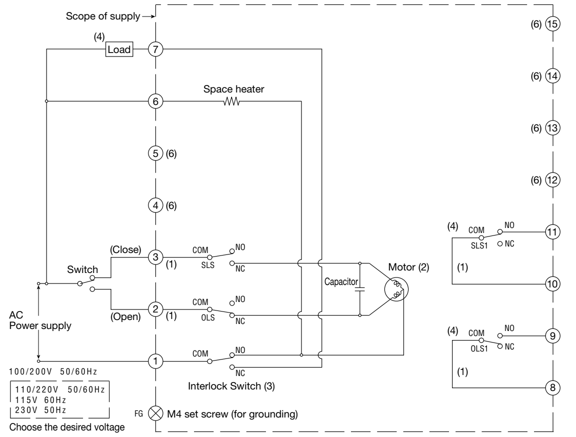
G3/4, NPT1/2, NPT3/4, M20

Specification

High–speed type For ball valve		EXH100/200–1	EXH100/200–2	EXH100/200–3	EXH100/200–4	EXH100/200–5
Standard–speed type For butterfly valve and ball valve			EXS100/200–2	EXS100/200–3	EXS100/200–4	EXS100/200–5
Power Supply		100/200 V AC ±10% 50/60 Hz				
Output Torque (Nm)		9.8	49	196	588	1000
Rated Current (A) *1	100 V AC	0.65	0.65	1.2	2.8	2.8
	200 V AC	0.35	0.35	0.6	1.5	1.5
Motor Type		Reversible				
Motor Output (W)	(Rating)	16	16	31	85	85
Rotating Direction *2		Tuning clockwise to close and counterclockwise to open valves				
Duty Factor [%ED]		30	30	30	30	30
Valve Closing Time [SEC] *3	EXH 50 Hz	9	14	21	28	49
	EXH 60 Hz	8	12	17	23	41
	EXS 50 Hz	—	25	35	49	49
	EXS 60 Hz	—	21	30	41	41
Space Heater Volume [W]	100 V AC	15	15	15	15	15
	200 V AC	15	15	15	15	15
Position Limit Switch*4		Two switches with voltage and two without voltage supplied				
Switch Contact Voltage		250 V AC 11 A least resistance load				
Insulation Class		JIS Class E, Strength: 1500 V AC 1min. or 1800 V 1sec., Resistance: 100 Ω minimum at 500 V DC				
Overload Protection		Thermal protection				
Service Environment		Indoor / Outdoor (Submergence and direct sunlight must be avoided.)				
Water, Dust — Proof		Equivalent to IP–67				
Ambient Temperature		–10°C to +50°C				
Conduit Port	EXH	One G1/2				
	EXS	Two G1/2				
Mounting Position		From Vertical position to Horizontal position (No downward position)				
Manual Operation		Pull up the manual override handle knob for manual operation, which will activate the built–in interlock switch to cut off power supply. For the restoration of electrical operation, push down the handle knob				
Mechanical Stopper	EXH	Mechanical stoppers are equipped in open and closed position. The stoppers are adjustable by 7 degrees in the both positions				
	EXS	Mechanical stoppers, which can be adjusted in the closed position, are equipped in open and closed position				
Position Indicator		Position indicator, covered by transparent cover, is equipped on the top of the actuator cover				
Mounting Flange		In accordance with ISO5211				

*1 As the actuator is subjected to approx. tenfold rated current at startup, the contacts of electrical devices connected to the actuator must have enough capacity to handle this large electrical current.
*2 Refer to "Operation manual" for 3 way valves.
*3 Valve closing time is calculated based on an unloaded condition without the valve being mounted. The closing time will be 10% slower, when the valve is mounted.
*4 In case load current is 50 mA or smaller, use limit switches for micro load (minute current).

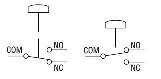
Circuit Diagram



Action of Interlock Switch

The handle knob is pulled up for manual operation.

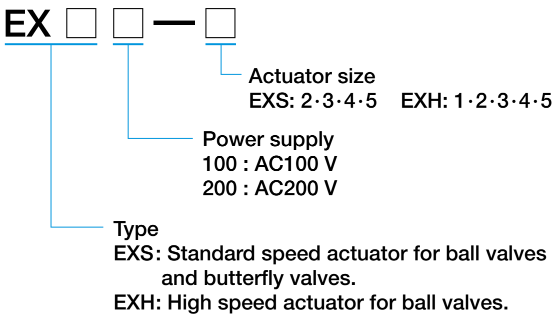
The handle knob is pushed down for electrical operation.



Note (1) Limit switches activate OLS: on full open position
SLS : on full closed position
OLS1 : on full open position for transmission of signal with micro load current
SLS1 : on full closed position for transmission of signal with micro load current
(2) Thermal protector built–in motor
(3) The motor and space heater will be de–energized, when the actuator is manually operated or the actuator cover is removed.
(4) Allowable load for limit switch contact: AC250V 11A (Resistance load). Use special limit switches for micro load application.
(5) The above circuit diagram indicates the pattern of full open position for two way ball valves or butterfly valves.
(6) Pin number 4, 5 and 12 to 15 are extra terminals.

Product Code

EX Series Product Code



Actuator size
EXS: 2·3·4·5 EXH: 1·2·3·4·5

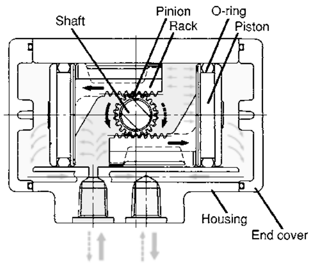
Power supply
100 : AC100 V
200 : AC200 V

Type
EXS: Standard speed actuator for ball valves and butterfly valves.
EXH: High speed actuator for ball valves.

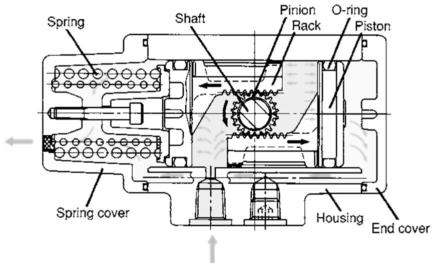
Actuated Valve

KITZ C·CS Series Pneumatic Actuators

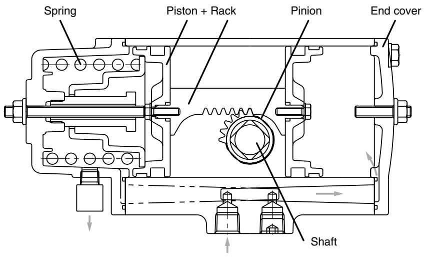
Type C (Double action)



Type CS (Spring return)



Type FBS (Spring return)



Actuator design Specifications

Specification / Type	C-1	C-2	CS-1	CS-2	FBS-1
Operating media	Instrumantation air				
Standard operating pressure	0.4 MPa				
Operating pressure range	0.4 to 0.7 MPa				
Output torque*1	3.9 N·m	8.5 N·m	1.3 N·m	3.1 N·m	7.6 N·m
Housing shell test pressure	0.97 MPa				
Angle of revolution	90° (+1 to +5°)				90° ± 7°
Cylinder volume (Litter)	0.073	0.160	0.033	0.071	0.15
Operation time	Max. 1 sec.*4				
Service temperature range*2	-20°C to +60°C -4°F to +140°F				-20°C to +80°C -4°F to +176°F
Ambient condition*3	Indoor				

Notes:

*1 At supply pressure 0.4 MPa

*2 Free from freezing of supply air

*3 For outdoor service, consult a KITZ engineer

*4 On a condition of KITZ standard air equipments and no load on

Design Features of KITZ C·CS / FBS Series Actuators

- **Light weight and compact size**
  Die-cast aluminum body and double-piston mechanism make the actuator lightweight and compact.
- **Simple mechanism**
  This actuator consists of a minimum number of parts. This enables the actuator to have a longer service life and lowers the possibility of malfunction.
- **Special solenoid valve**
  A direct-mount-type special solenoid valve used exclusively for the KITZ C type actuator is available.
- **High-efficiency quarter-turn actuator**
  The double-piston-type rack and pinion mechanism provides high-efficiency quarter-turn rotation.
- **Direct mount type**
  The actuator is directly mounted on a valve with only two bolts.

The FBS-type actuator should be chosen for larger-sized valves.

Standard guide actuator selection

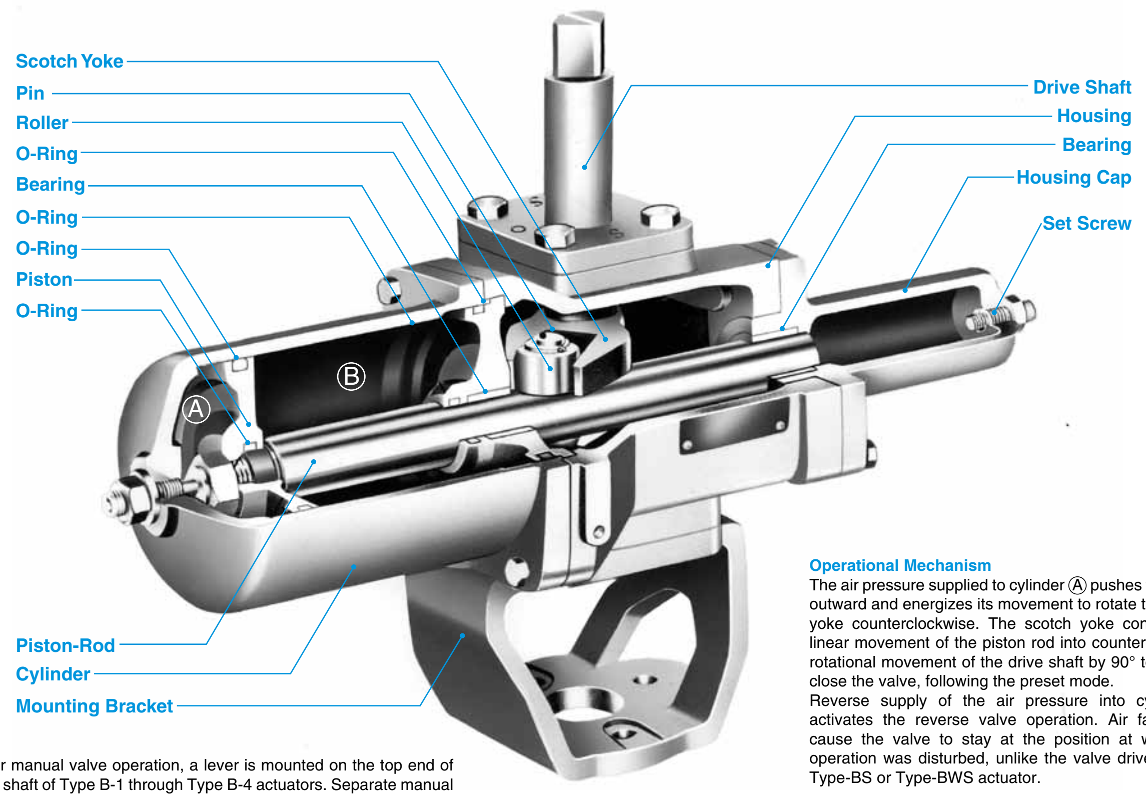
<table>
<tr><th>Fig \ Size</th><th>¼</th><th>⅜</th><th>½</th><th>¾</th><th>1</th><th>1¼</th><th>1½</th><th>2</th></tr>
<tr><td rowspan="2">TE</td><td rowspan="2"></td><td colspan="4">C-1</td><td colspan="3">CS-2</td></tr>
<tr><td>CS-1</td><td colspan="3">CS-2</td><td colspan="3">(FBS-1)</td></tr>
<tr><td rowspan="2">TFE</td><td colspan="2" rowspan="2"></td><td colspan="2">C-1</td><td colspan="3">C-2</td><td rowspan="2"></td></tr>
<tr><td>CS-2</td><td colspan="4">(FBS-1)</td></tr>
<tr><td rowspan="2">TLE</td><td colspan="2" rowspan="2"></td><td colspan="3">C-1</td><td colspan="3">C-2</td></tr>
<tr><td colspan="3">CS-2</td><td colspan="3">(FBS-1)</td></tr>
<tr><td rowspan="2">TNE</td><td colspan="5">C-1</td><td colspan="3">C-2</td></tr>
<tr><td colspan="2">CS-1</td><td colspan="3">CS-2</td><td colspan="3">(FBS-1)</td></tr>
<tr><td rowspan="2">TGE</td><td rowspan="2"></td><td>C-1</td><td colspan="3">C-2</td><td colspan="3" rowspan="2"></td></tr>
<tr><td>CS-2</td><td colspan="3">(FBS-1)</td></tr>
<tr><td rowspan="2">TUE</td><td colspan="2" rowspan="2"></td><td colspan="2">C-1</td><td colspan="4" rowspan="2"></td></tr>
<tr><td colspan="2">CS-2</td></tr>
<tr><td rowspan="2">UTE</td><td colspan="5">C-1</td><td colspan="3">C-2</td></tr>
<tr><td colspan="2">CS-1</td><td colspan="3">CS-2</td><td colspan="3">(FBS-1)</td></tr>
<tr><td rowspan="2">UTFE</td><td colspan="2" rowspan="2"></td><td colspan="2">C-1</td><td colspan="3">C-2</td><td rowspan="2"></td></tr>
<tr><td>CS-2</td><td colspan="4">(FBS-1)</td></tr>
<tr><td rowspan="2">UTGE</td><td colspan="2">C-1</td><td colspan="3">C-2</td><td colspan="3" rowspan="2"></td></tr>
<tr><td colspan="2">CS-2</td><td colspan="3">(FBS-1)</td></tr>
<tr><td rowspan="2">5/10UTWE</td><td rowspan="2"></td><td colspan="2">C-1</td><td colspan="2">C-2</td><td colspan="3" rowspan="2"></td></tr>
<tr><td colspan="2">CS-2</td><td colspan="2">(FBS-1)</td></tr>
<tr><td rowspan="2">UTNE</td><td colspan="5">C-1</td><td colspan="3">C-2</td></tr>
<tr><td colspan="2">CS-1</td><td colspan="3">CS-2</td><td colspan="3">(FBS-1)</td></tr>
</table>

🟦 For the size ranges not covered by KITZ C Series actuators,more powerful KITZ Type FBS-1 actuators are recommended.

Features of KITZ B Series Pneumatic Actuators

Type B (Double-Action)

Internationally patented



Note: For manual valve operation, a lever is mounted on the top end of the drive shaft of Type B-1 through Type B-4 actuators. Separate manual operators are available for Type B-5 and Type B-6 actuators.

Operational Mechanism

The air pressure supplied to cylinder Ⓐ pushes the piston outward and energizes its movement to rotate the scotch yoke counterclockwise. The scotch yoke converts the linear movement of the piston rod into counterclockwise rotational movement of the drive shaft by 90° to open or close the valve, following the preset mode.

Reverse supply of the air pressure into cylinder Ⓑ activates the reverse valve operation. Air failure will cause the valve to stay at the position at which the operation was disturbed, unlike the valve driven by the Type-BS or Type-BWS actuator.

※Please contact KITZ Corporation for B-7.

Smooth operation with minimum friction

Extensive use of fluorocarbon resin to coat the inner parts of the actuator reduces friction to a minimum for smooth operation. This includes the inside of the cylinder, resulting in smooth sliding of the piston and O-rings, as well as the surfaces of the driving shaft, piston rod, and all bearings. As a result, the actuator achieves long-term stable operation.

Simple, trouble-free construction

The number of parts has been minimized to reduce mechanical problems and simplify periodic checks, maintenance, disassembly, or reassembly.

Separated turning mechanism and cylinder

Unlike conventional designs, in which the cylinder drive transmission mechanism is incorporated in the cylinder itself, the transmission mechanism of KITZ B Series actuators is designed with a scotch yoke installed separately from the cylinder. This construction prevents air leakage even when the shaft clearance has increased during service.

Drive characteristics suited to quarter-turn valves

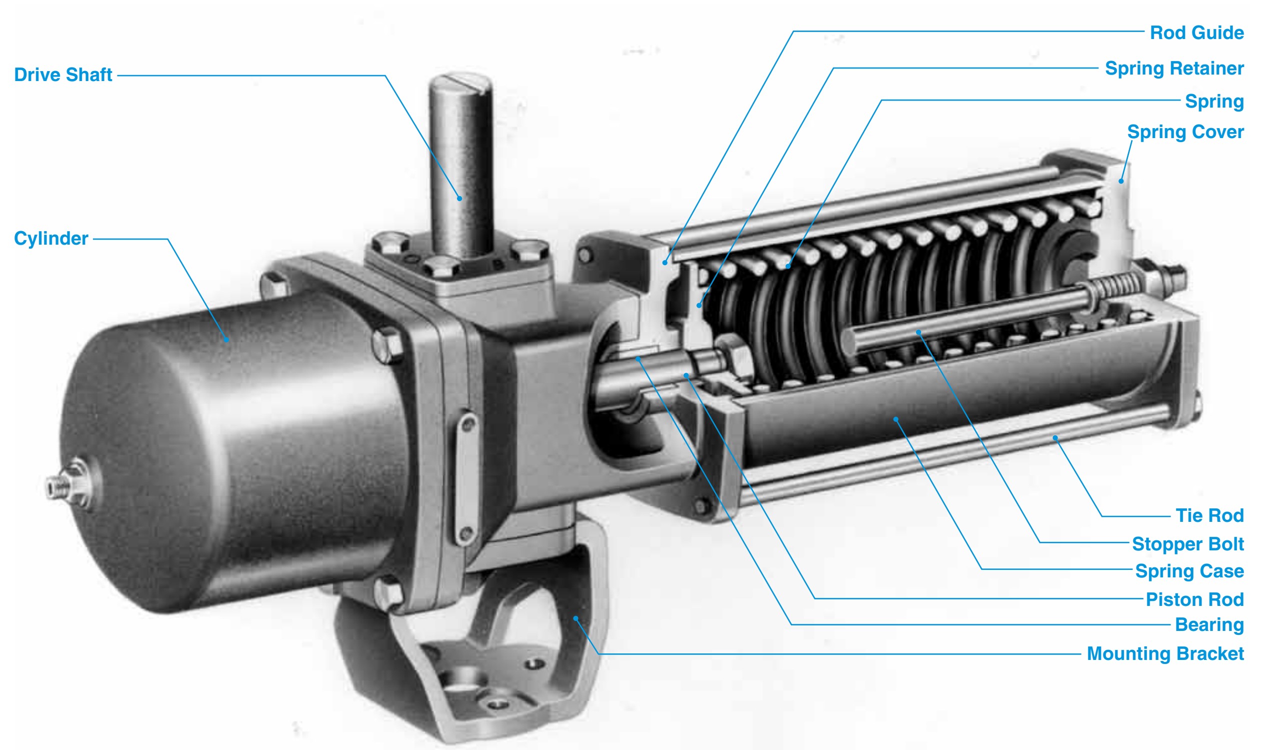
Unlike conventional cylinder actuators that deploy linear drive characteristics, the use of a scotch yoke mechanism provides a U-shaped curve that maximizes the force obtained at the start and end areas of each stroke. This performance curve is similar to the torque characteristics of ball and butterfly valves in general, making KITZ B Series actuators suitable for such quarter-turn valves (see Page 103).

Installation of accessories

The actuator housing is provided with an arrangement for mounting limit switches and valve positioners, etc., on its top, and solenoid valves, air filters, and regulators on its side.

Type BS (Spring-Return)
Type BSW (Spring-Return with Manual Operation Device)

Internationally patented



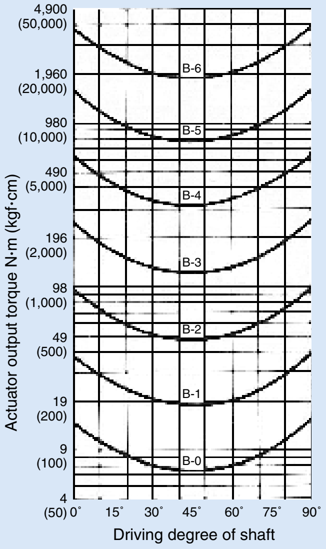
Operational Mechanism

The air pressure supplied to the cylinder pushes the piston outward and energizes its movement to rotate the scotch yoke counterclockwise, compressing the spring. The scotch yoke converts the linear movement of the piston rod into counterclockwise rotational movement of the drive shaft by 90°, to open or close the valve, following the preset mode.

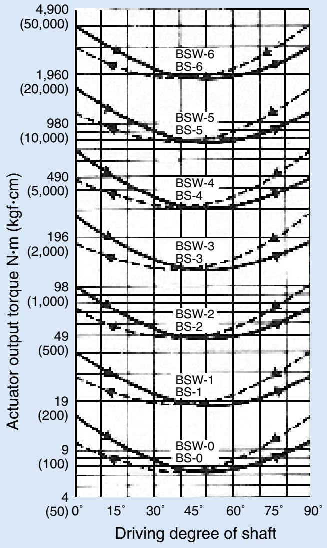
At the instant when air is discharged to the atmosphere through the solenoid valve, the spring force pushes the piston to the reverse direction, and the scotch yoke activates clockwise rotation of the shaft to reversely operate the valve. Air failure will cause the valve to return to the original open or closed position automatically, following the preset mode, unlike the valve driven by the Type-B actuator. The BSW actuator is driven with the same mechanism as the Type-BS actuator but provided with a handwheel for manual operation. Please bear in mind that the handwheel must be factory mounted.

※Please contact KITZ Corporation for BS-7 and BSW-7.

Type B Actuator Output Torque



Type BS/BSW Actuator Output Torque



— Output torque when air pressure is supplied.

- - - Output torque caused by spring force when air pressure is exhausted.

Operating pressure:
0.4 MPa (4 kgf/cm² or 60 psi)

※Please contact KITZ Corporation for B-7, BS-7 and BSW-7.

KITZ F Series
Pneumatic Valve Actuators

Characterized by utmost ease of handling and extended service life with high operational efficiency

Easy answers to engineering modification requirements

Economic advantage

Use of monobloc casting of the piston-rack assembly results in a 10% to 15% reduction in the housing dimensions (compared to KITZ D Series actuators) and saves air consumption for valve actuation.

Extended service life with monobloc casting of two pistons and a gear rack

Threads of a gear rack are positioned in the center of the actuator housing, and two pistons are cast in combination with the gear rack as a one-piece unit. This helps to keep the piston position in parallel during actuator travel.

Light and compact housing

Employment of die-cast aluminum for housings and piston-rack assemblies has reduced the actuator weight by 20% to 40% (compared to KITZ D Series actuators) for improved torque to weight ratio.

Conformity to international standards

NAMUR VDI/VDE 3845 designs are for tubeless mounting of a solenoid valve and switchbox on the actuator housing as well as conforming to ISO 5211 requirements for valve mounting flanges. The stem top design also conforms to NAMUR dimensions.

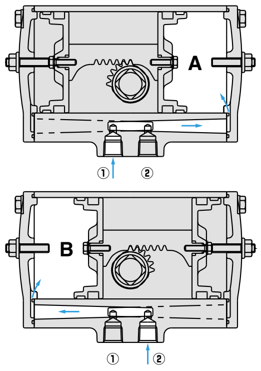
Actuators can be directly mounted to KITZ DJ, XJ Series Butterfly Valves

Optional adaptors (connectors) to the valves at the bottom of the actuators can be provided for various mounting requirements.

Operating Mechanism

Double action (Type FA)

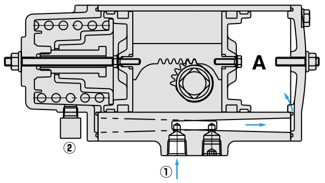
(1) Air pressure supplied to chamber **A** through port ① pushes the gear rack with two pistons outward and discharges the air residue through port ②.
(2) The gear rack rotates the pinion gear and the shaft counterclockwise to drive the valve.
(3) Reverse supply of the air pressure activates reverse valve operation.



Double action

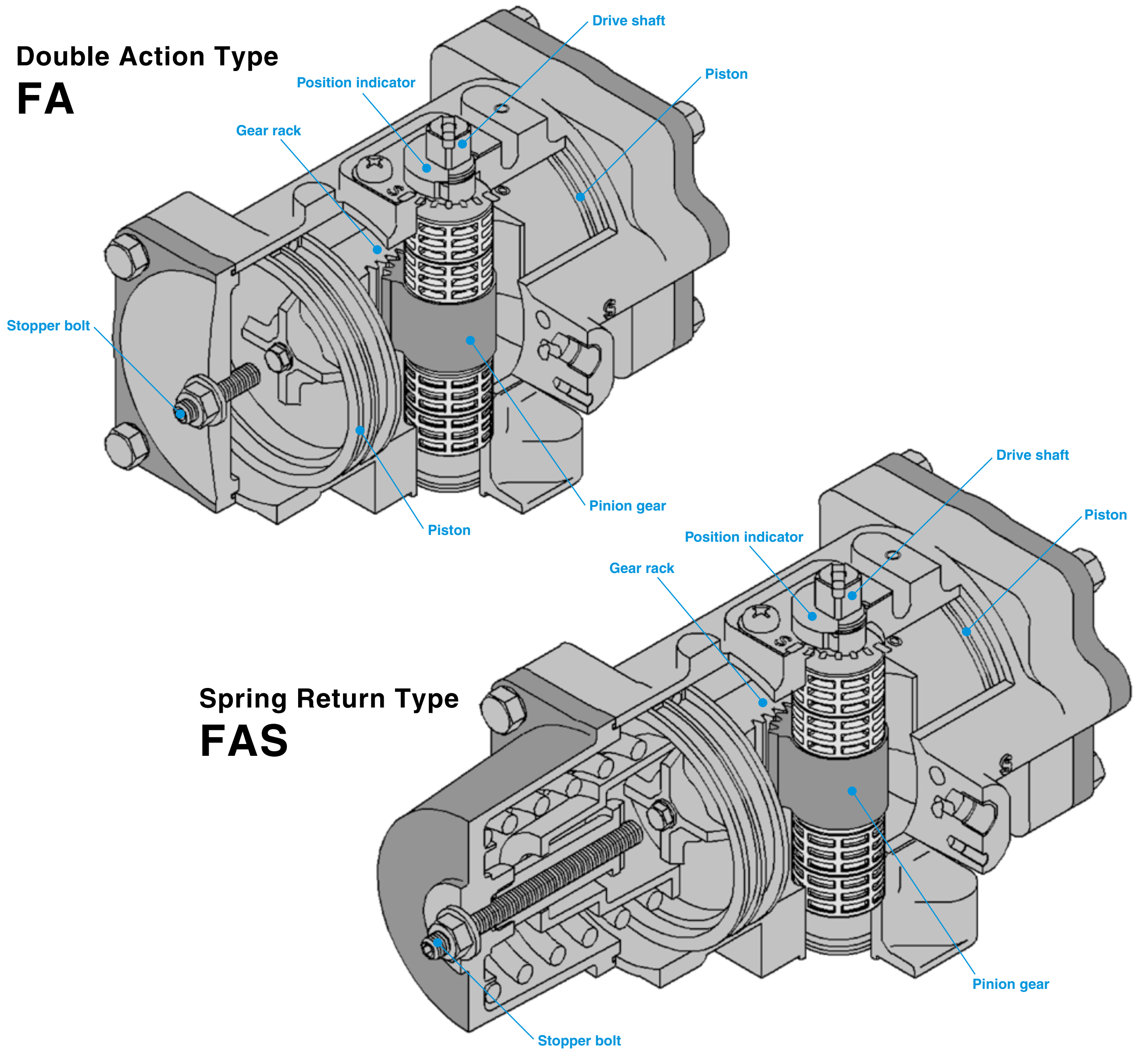
Spring return (Type FAS)

(1) Air pressure supplied to chamber A through port ① pushes the gear rack with two pistons outward, compresses the springs, and discharges the air residue through port ②.
(2) The gear rack rotates the pinion gear and the shaft counterclockwise to drive the valve.
(3) At the instant when the air in chamber A is discharged through the solenoid valve, the spring force pushes the pistons to the reverse direction and the gear rack activates clockwise rotation of the shaft to reversely operate the valve.



Spring return

Design Features



Double Action Type
FA

Spring Return Type
FAS

Specification

Operating medium	Compressed instrumentation air or nitrogen gas
Operating pressure	Standard operating pressure 0.4 MPa
Operating pressure range	0.3 MPa to 0.7 MPa*
Cylinder test pressure	0.97 MPa
Shaft rotating angle	90°±7°
Service temperature	-20°C to +80°C (Supply air should not be frozen.)
Opening degree indication	Indicator has 15 degree graduation
Valve mounting flange	ISO 5211
Accessory mounting connection	NAMUR VDI/VDE 3845
Coating	Baked Polyester Resin Coating

* Be consulted by KITZ for non-standard operating pressure.

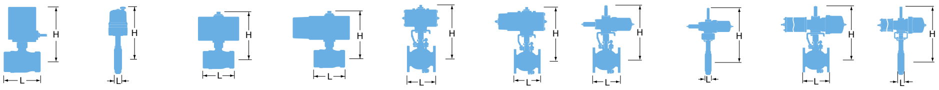
Product Coding

FAS-2

Type of actuator
F

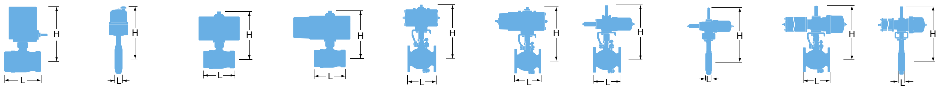
Type of operation:
No code···Double action
S··············Spring return

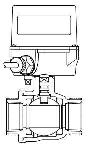
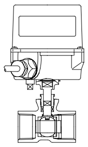
Actuator size:
1···Size 1
2···Size 2
3···Size 3
4···Size 4
5···Size 5
6···Size 6

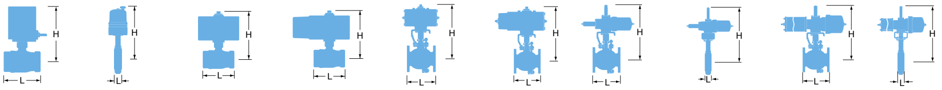


TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL / 3WAY TRUNNION BALL			FLOATING BALL		
Actuators Valves																	
FIG			EA100/200-TE			EA100/200-TFE			EA100/200-TGE			EA100/200-TNE			EA100/200-UTE		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			BS21 (JIS B0203)			JIS B0203			JIS B0203			JIS B0203			JIS B0203		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	46	101.5	–	44	102	–
	⅜	10	46	104	–	–	–	–	46	130	–	46	101.5	–	44	102	–
	½	15	65	109.5	–	63	113.5	–	65	135.5	–	67	109.5	–	56.5	102	–
	¾	20	68	113.5	–	73	117.5	–	68	139.5	–	68	114	–	59	105	–
	1	25	79	117.5	–	85	128.5	–	79	143.5	–	79	118	–	71	108	–
	1¼	32	86	128.5	–	98	142.2	–	–	–	–	89	129.5	–	78	132.5	–
	1½	40	96	142.5	–	108	148.5	–	–	–	–	100	142.5	–	83	135.5	–
	2	50	109	148.5	–	–	–	–	–	–	–	115	148.5	–	100	141.5	–
BODY			Cast Bronze			Forged Brass			Cast Bronze			Cast Bronze			SCS14A		
BONNET			Forged Brass			Forged Brass			Forged Brass			Forged Brass			–		
STEM			Special Brass			High Tension Brass			High Tension Brass			High Tension Brass			SUS316		
DISC			Special Brass			Special Brass			Special Brass			Special Brass			SUS316		
SEAT			PTFE			PTFE			REINFORCED PTFE			PTFE			PTFE		
			Reduced Port			Full Port			Reduced Port			Reduced Port			Reduced Port		

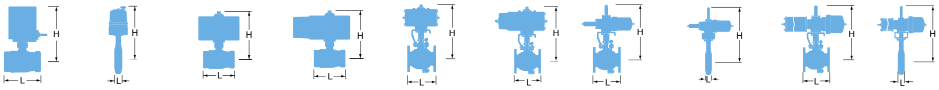
TYPE			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL / TRUNNION BALL			3WAY FLOATING BALL / 3WAY TRUNNION BALL		
Actuators Valves																	
FIG			EA100/200-UTFE			EA100/200-UTGE			EA100/200-UTNE			ED12/24-TE			ED12/24-TNE		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B0203			JIS B0203			JIS B0203			BS21 (JIS B0203)			JIS B0203		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	44	128	–	44	101.5	–	–	–	–	46	109.5	–
	⅜	10	–	–	–	44	128	–	44	101.5	–	46	112	–	46	109.5	–
	½	15	62	113.5	–	56.5	128	–	58	106.5	–	65	117.5	–	67	117.5	–
	¾	20	73	117.5	–	59	131	–	61.5	110.5	–	68	121.5	–	68	122	–
	1	25	85	128.5	–	71	134	–	74	114	–	79	120.5	–	79	121	–
	1¼	32	98	143.5	–	–	–	–	82.5	132.5	–	86	124.5	–	89	125.5	–
	1½	40	108	149	–	–	–	–	90.5	135.5	–	96	138.5	–	100	138.5	–
	2	50	–	–	–	–	–	–	109.5	141.5	–	109	144.5	–	115	144.5	–
BODY			SCS14A			SCS14A			SCS14A			Cast Bronze			Cast Bronze		
BONNET			SCS14A			–			–			Forged Brass			Forged Brass		
STEM			SUS316			SUS316			SUS316			Special Brass			High Tension Brass		
DISC			SUS316			SUS316			SUS316			Special Brass			Special Brass		
SEAT			PTFE			REINFORCED PTFE			C/F PTFE			PTFE			PTFE		
			Full Port			Reduced Port			Reduced Port			Reduced Port			Reduced Port		



TYPE			FLOATING BALL			FLOATING BALL / TRUNNION BALL			FLOATING BALL		
Actuators Valves											
FIG			ED12/24-UTE			ED12/24-UTFE			ED12/24-UTGE		
PRESSURE			10K			10K			10K		
END CONNECTION			JIS B0203			JIS B0203			JIS B0203		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D
	¼	8	44	110	–	–	–	–	44	123.5	–
	⅜	10	44	110	–	–	–	–	44	123.5	–
	½	15	56.5	110	–	62	121.5	–	56.5	124	–
	¾	20	59	113	–	73	120.5	–	59	126.5	–
	1	25	71	116	–	85	124.5	–	71	129.4	–
	1¼	32	78	128.5	–	98	139.5	–	–	–	–
	1½	40	83	131.5	–	108	145.5	–	–	–	–
	2	50	100	137.5	–	–	–	–	–	–	–
BODY			SCS14A			SCS14A			SCS14A		
BONNET			–			SCS14A			–		
STEM			SUS316			SUS316			SUS316		
DISC			SUS316			SUS316			SUS316		
SEAT			PTFE			PTFE			REINFORCED PTFE		
			Reduced Port			Full Port			Reduced Port		

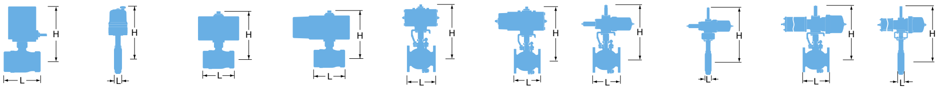


TYPE			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Actuators Valves											
FIG			EXS100/200-10DJ			EXS100/200-10DJE			EXS100/200-10XJME		
PRESSURE			10K			10K			10K		
END CONNECTION			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D
	1½	40	–	–	–	–	–	–	33	309	–
	2	50	43	328	–	43	328	–	43	313	–
	2½	65	46	336	–	46	336	–	46	322	–
	3	80	46	354	–	46	354	–	46	330	–
	4	100	52	364	–	52	364	–	52	341	–
	5	125	56	417.5	–	56	417.5	–	56	401	–
	6	150	56	429.5	–	56	429.5	–	56	413.5	–
	8	200	60	454.5	–	60	454.5	–	60	440	–
	10	250	68	580	–	68	580	–	68	604	–
	12	300	78	605	–	78	605	–	78	629	–
	14	350	78	717	–	78	717	–	–	–	–
	16	400	102	772	–	102	772	–	–	–	–
BODY			FCD450-10			FCD450-10			Aluminum Die-Cast		
BONNET			–			–			–		
STEM			SUS403 / SUS410			SUS403 / SUS410			SUS410		
DISC			FCD450-10+ENP			FCD450-10+ENP			A276 316 / A351 Gr.CF8M		
SEAT			NBR			EPDM / NBR			EPDM		
			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc					



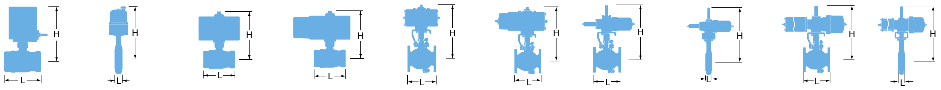
TYPE			FLOATING BALL / TRUNNION BALL			FLOATING BALL / TRUNNION BALL			FLOATING BALL			FLOATING BALL / TRUNNION BALL			3WAY FLOATING BALL / 3WAY TRUNNION BALL		
Actuators Valves																	
FIG			C-TE			C-TFE			C-TGE			C-TLE			C-TNE		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			BS21 (JIS B0203)			JIS B0203			JIS B0203			JIS B0203			JIS B0203		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	–	–	–	–	–	–	–	–	–	46	85.5	–
	⅜	10	46	87.5	–	–	–	–	46	107.5	–	–	–	–	46	85.5	–
	½	15	65	93.5	–	63	97.5	–	65	132.5	–	56	115.5	–	67	93.5	–
	¾	20	68	97.5	–	73	101.5	–	68	136.5	–	65	120.5	–	68	97.5	–
	1	25	79	101.5	–	85	124.5	–	79	140.5	–	78	123.5	–	79	101.5	–
	1¼	32	86	124.5	–	98	138.5	–	–	–	–	86	158.5	–	89	125.5	–
	1½	40	96	137.5	–	108	144.5	–	–	–	–	96	161.5	–	100	138.5	–
	2	50	109	144.5	–	–	–	–	–	–	–	109	168.5	–	115	144.5	–
BODY			Cast Bronze			Forged Brass			Forged Brass			Cast Bronze			Forged Brass		
BONNET			Forged Brass			Forged Brass			Forged Brass			Cast Bronze			Forged Brass		
STEM			Special Brass			High Tension Brass			High Tension Brass			High Tension Brass			High Tension Brass		
DISC			Special Brass			Special Brass			Special Brass			Special Brass			Special Brass		
SEAT			PTFE			PTFE			REINFORCED PTFE			PTFE			PTFE		
			Reduced Port			Full Port			Reduced Port			Reduced Port			Reduced Port		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			C-UTE			C-UTE			C-UTGE			C-UTNE			CS-TE		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B0203			JIS B0203			JIS B0203			JIS B0203			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	44	85.5	–	44	105.5	–	44	85	–	–	–	–
	⅜	10	–	–	–	44	85.5	–	44	105.5	–	44	85	–	46	87.5	–
	½	15	78.5	85.5	–	56.5	85.5	–	56.5	124.5	–	58	90	–	65	112.5	–
	¾	20	81	88.5	–	59	88.5	–	59	127.5	–	61.5	94	–	68	116.5	–
	1	25	–	–	–	71	91.5	–	71	130.5	–	74	97.5	–	79	120.5	–
	1¼	32	–	–	–	78	128.5	–	–	–	–	82.5	128	–	–	–	–
	1½	40	–	–	–	83	131.5	–	–	–	–	90.5	131	–	–	–	–
	2	50	–	–	–	100	137.5	–	–	–	–	109.5	137	–	–	–	–
BODY			Cast Bronze			SCS14A			SCS14A			SCS14A			Cast Bronze		
BONNET			–			–			–			–			Forged Brass		
STEM			High Tension Brass			SUS316			SUS316			SUS316			Special Brass		
DISC			Special Brass			SUS316			SUS316			SUS316			Special Brass		
SEAT			G/F PTFE			PTFE			REINFORCED PTFE			C/F PTFE			PTFE		
			Reduced Port			Reduced Port			Reduced Port			Reduced Port			Reduced Port		



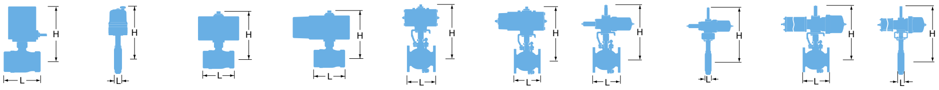
TYPE			FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			CS-TLE			CS-TNE			CS-TUE			CS-UTE			CS-UTGE		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B0203			JIS B0203			JIS B0203			JIS B0203			JIS B0203		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	–	–	–	46	85.5	–	–	–	–	44	85.5	–	44	124.5	–
	⅜	10	–	–	–	46	85.5	–	–	–	–	44	85.5	–	44	124.5	–
	½	15	56	134.5	–	67	112.5	–	78.5	104.5	–	56.5	104.5	–	–	–	–
	¾	20	65	139.5	–	68	116.5	–	81	107.5	–	59	107.5	–	–	–	–
	1	25	78	142.5	–	79	120.5	–	–	–	–	71	110.5	–	–	–	–
	1¼	32	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	1½	40	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2	50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			Cast Bronze			Cast Bronze			Cast Bronze			SCS14A			SCS14A		
BONNET			Cast Bronze			Forged Brass			–			–			–		
STEM			High Tension Brass			High Tension Brass			High Tension Brass			SUS316			SUS316		
DISC			Special Brass			Special Brass			Special Brass			SUS316			SUS316		
SEAT			PTFE			PTFE			G/F PTFE			PTFE			REINFORCED PTFE		
			Reduced Port			Reduced Port			Reduced Port			Reduced Port			Reduced Port		

TYPE			3WAY FLOATING BALL			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			CS-UTNE			FA-10FCT			FA-10FCTB			FA-10FCTB2L			FA-10SCTDZ		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B0203			BS21 (JIS B0203)			JIS B2239			JIS B2239			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	¼	8	44	85	–	–	–	–	–	–	–	–	–	–	–	–	–
	⅜	10	44	85	–	72	216	–	–	–	–	–	–	–	–	–	–
	½	15	58	109	–	80	225	–	110	225	–	–	–	–	108	215	–
	¾	20	61.5	113	–	85	228	–	120	228	–	–	–	–	117	218	–
	1	25	74	116.5	–	95	235	–	130	235	–	–	–	–	127	240	–
	1¼	32	–	–	–	120	239	–	140	239	–	–	–	–			–
	1½	40	–	–	–	120	297	–	165	297	–	210	297	–	165	297	–
	2	50	–	–	–	140	304	–	180	304	–	220	306	–	178	306	–
	2½	65	–	–	–	160	349	–	190	345	–	250	347	–	190	363	–
	3	80	–	–	–	182	417	–	200	413	–	260	413	–	203	419	–
	4	100	–	–	–	–	–	–	230	436	–	330	440	–	229	447	–
	5	125	–	–	–	–	–	–	300	520	–	–	–	–	356	519	–
	6	150	–	–	–	–	–	–	340	545	–	–	–	–	394	552	–
	8	200	–	–	–	–	–	–	450	628	–	–	–	–	457	656	–
BODY			SCS14A			FC200			FC200			FC200			SCPH2 (WCB)		
BONNET			–			FC200			FC200			FC200			SCPH2		
STEM			SUS316			SUS403			SUS403			SUS403			SUS304		
DISC			SUS316			SUS304 / SCS13A			SUS304 / SCS13A			SCS13A			SUS304 / SCS13A		
SEAT			C/F PTFE			PTFE			PTFE			PTFE			HYPATITE® PTFE		
			Reduced Port			Reduced Port			Full Port			Full Port			Full Port		



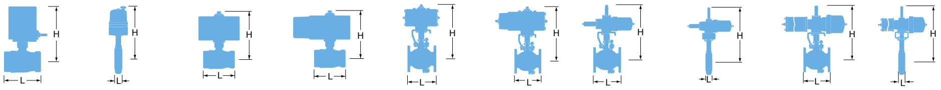
TYPE			FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			FA-10UT			FA-10UTB2L			FA-10UTB4LAM			FA-10UTBLN			FA-10UTDZ		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			BS21 (JIS B0203)			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	3/8	10	62	216	–	–	–	–	–	–	–	–	–	–	–	–	–
	1/2	15	65	225	–	–	–	–	120	237	–	140	228	–	108	215	–
	3/4	20	80	228	–	–	–	–	140	263	–	152	229	–	117	218	–
	1	25	90	235	–	165	235	–	160	267	–	165	240	–	127	240	–
	1 1/4	32	110	239	–	210	297	–	180	335	–	–	–	–	140	244	–
	1 1/2	40	120	297	–	220	304	–	200	403	–	191	301	–	165	297	–
	2	50	140	304	–	250	347	–	240	422	–	216	307	–	178	306	–
	2 1/2	65	160	345	–	260	413	–	260	498	–	240	347	–	190	363	–
	3	80	182	413	–	330	440	–	330	549	–	250	416	–	203	419	–
	4	100	–	–	–	–	–	–	–	–	–	280	442	–	229	447	–
	5	125	–	–	–	–	–	–	–	–	–	–	–	–	356	519	–
	6	150			–	–	–	–	–	–	–	–	–	–	394	552	–
	8	200			–	–	–	–	–	–	–	–	–	–	457	656	–
BODY			SCS13A			SCS13A			SCS14A			SCS13A			SCS13A		
BONNET			SCS13A			SCS13A			SCS14A			SCS13A			SCS13A		
STEM			SUS304			SUS304			SUS316			SUS304			SUS304		
DISC			SUS304 / SCS13A			SUS304 / SCS13A			SUS316 / SCS14A			SUS304 / SCS13A			SUS304 / SCS13A		
SEAT			PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		

TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			FA-150SCTDZ			FA-150UTDZ			FA-20SCTDZ			FA-20UTDZ			FA-300SCTDZ		
PRESSURE			Class 150			Class 150			20K			20K			Class 300		
END CONNECTION			ASME B16.5			ASME B16.18			JIS B2220			JIS B2220			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	1/2	15	108	215	–	108	215	–	108	215	–	140	215	–	140	215	–
	3/4	20	117	218	–	117	218	–	117	218	–	152	218	–	152	218	–
	1	25	127	240	–	127	240	–	127	240	–	165	240	–	165	240	–
	1 1/4	32			–	140	244	–	–	–	–	178	244	–	–	–	–
	1 1/2	40	165	297	–	165	297	–	165	297	–	190	297	–	190	297	–
	2	50	178	306	–	178	306	–	178	306	–	216	306	–	216	306	–
	2 1/2	65	190	363	–	190	363	–	190	363	–	241	363	–	241	363	–
	3	80	203	419	–	203	419	–	203	419	–	283	419	–	283	419	–
	4	100	229	447	–	229	447	–	229	447	–	305	447	–	305	447	–
	5	125	356	519	–	356	519	–	356	519	–	381	419	–	–	–	–
	6	150	394	552	–	394	552	–	394	552	–	403	552	–	403	552	–
	8	200	457	656	–	457	656	–	457	656	–	502	656	–	502	656	–
BODY			A216 Gr.WCB			A351 Gr.CF8			SCPH2 (WCB)			SCS13A			A216 Gr.WCB		
BONNET			A216 Gr.WCB			A351 Gr.CF8			SCPH2			SCS13A			A216 Gr.WCB		
STEM			A276 TYPE304			A276 TYPE304			SUS304			SUS304			A276 TYPE304		
DISC			A276 TYPE304 / A351 Gr.CF8			A276 TYPE304 / A351 Gr.CF8			SUS304 / SCS13A			SUS304 / SCS13A			A276 TYPE304 / A351 Gr.CF8		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		



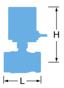
TYPE			FLOATING BALL			FLOATING BALL			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Actuators Valves																	
FIG			FA-300UTDZ			FA-300UTDZM			FA-10XJME			FA-10DJ			FA-10DJE		
PRESSURE			Class 300			Class 300			10K			10K			10K		
END CONNECTION			ASME B16.18			ASME B16.18			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	215	–	140	215	–	–	–	–	–	–	–	–	–	–
	¾	20	152	218	–	152	218	–	–	–	–	–	–	–	–	–	–
	1	25	165	240	–	165	240	–	–	–	–	–	–	–	–	–	–
	1¼	32			–	–	–	–	–	–	–	–	–	–	–	–	–
	1½	40	190	297	–	190	297	–	33	251	–	–	–	–	–	–	–
	2	50	216	306	–	216	306	–	43	255	–	43	270	–	43	270	–
	2½	65	241	363	–	241	363	–	46	287	–	46	278	–	46	278	–
	3	80	283	419	–	283	419	–	46	295	–	46	319	–	46	319	–
	4	100	305	447	–	305	447	–	52	306	–	52	329	–	52	329	–
	5	125	–	–	–	–	–	–	56	357	–	56	373	–	56	373	–
	6	150	403	552	–	403	552	–	56	369	–	56	385	–	56	385	–
	8	200	502	656	–	502	656	–	60	435	–	60	449	–	60	449	–
	10	250	–	–	–	–	–	–	68	573	–	68	549	–	68	549	–
	12	300	–	–	–	–	–	–	78	627	–	78	603	–	78	603	–
BODY			A351 Gr.CF8			A351 Gr.CF8M			Aluminum Die-Cast			FCD450-10			FCD450-10		
BONNET			A351 Gr.CF8			A351 Gr.CF8M			–			–			–		
STEM			A276 TYPE304			A276 TYPE316			SUS410			SUS403 / SUS410			SUS403 / SUS410		
DISC			A276 TYPE304 / A351 Gr.CF8			A276 TYPE316 / A351 Gr.CF8M			A276 316 / A351 CF8M			FCD450-10+ENP			FCD450-10+ENP		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			EPDM			NBR			EPDM		
			Full Port			Full Port						Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc		

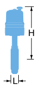
TYPE			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			FAS-10FCT			FAS-10FCTB			FAS-10FCTB2L			FAS-10SCTDZ			FAS-10UT		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			BS21 (JIS B0203)			JIS B2239			JIS B2239			JIS B2220			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	72	216	–	–	–	–	–	–	–	–	–	–	62	216	–
	½	15	80	225	–	110	225	–	–	–	–	108	215	–	65	225	–
	¾	20	85	228	–	120	228	–	–	–	–	117	241	–	80	228	–
	1	25	95	258	–	130	258	–	–	–	–	127	276	–	90	258	–
	1¼	32	120	262	–	140	262	–	–	–	–	–	–	–	110	262	–
	1½	40	120	313	–	165	313	–	210	313	–	165	313	–	120	313	–
	2	50	140	343	–	180	343	–	220	345	–	178	355	–	140	343	–
	2½	65	160	404	–	190	404	–	250	406	–	190	409	–	160	404	–
	3	80	182	468	–	200	468	–	260	468	–	203	475	–	182	468	–
	4	100	–	–	–	230	500	–	330	504	–	229	503	–	–	–	–
	5	125	–	–	–	300	549	–	–	–	–	356	548	–	–	–	–
	6	150	–	–	–	340	574	–	–	–	–	394	581	–	–	–	–
BODY			FC200			FC200			FC200			SCPH2 (WCB)			SCS13A		
BONNET			FC200			FC200			FC200			SCPH2			SCS13A		
STEM			SUS403			SUS403			SUS403			SUS304			SUS304		
DISC			SUS304 / SCS13A			SUS304 / SCS13A			SCS13A			SUS304 / SCS13A			SUS304 / SCS13A		
SEAT			PTFE			PTFE			PTFE			HYPATITE® PTFE			PTFE		
			Reduced Port			Full Port			Full Port			Full Port			Full Port		

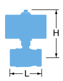


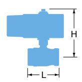
TYPE			3WAY FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			FAS-10UTB2L			FAS-10UTB4LA			FAS-10UTBLN			FAS-10UTDZ			FAS-150SCTDZ		
PRESSURE			10K			10K			10K			10K			Class 150		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	–	–	–	120	260	–	140	228	–	108	215	–	108	215	–
	¾	20	–	–	–	140	279	–	152	229	–	117	241	–	117	241	–
	1	25	165	258	–	160	283	–	165	263	–	127	276	–	127	276	–
	1¼	32	–	–	–	–	–	–	–	–	–	140	280	–			–
	1½	40	210	313	–	180	394	–	191	317	–	165	313	–	165	313	–
	2	50	220	345	–	200	458	–	216	346	–	178	355	–	178	355	–
	2½	65	250	406	–	240	515	–	240	406	–	190	409	–	190	409	–
	3	80	260	468	–	260	527	–	250	471	–	203	475	–	203	475	–
	4	100	330	504	–	–	–	–	280	506	–	229	503	–	229	503	–
	5	125	–	–	–	–	–	–	–	–	–	356	548	–	356	548	–
	6	150	–	–	–	–	–	–	–	–	–	394	581	–	394	581	–
BODY			SCS13A			SCS13A			SCS13A			SCS13A			A216 Gr.WCB		
BONNET			SCS13A			SCS13A			SCS13A			SCS13A			A216 Gr.WCB		
STEM			SUS304			SUS304			SUS304			SUS304			A276 TYPE304		
DISC			SUS304 / SCS13A			SUS304 / SCS13A			SUS304 / SCS13A			SUS304 / SCS13A			A276 TYPE304 / A351 Gr.CF8		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		

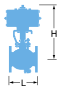
TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			FAS-150UTDZ			FAS-150UTDZM			FAS-20SCTDZ			FAS-20UTDZ			FAS-300SCTDZ		
PRESSURE			Class 150			Class 150			20K			20K			Class 300		
END CONNECTION			ASME B16.18			ASME B16.18			JIS B2220			JIS B2220			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	215	–	108	215	–	140	215	–	140	215	–	140	215	–
	¾	20	117	241	–	117	241	–	152	241	–	152	241	–	152	241	–
	1	25	127	276	–	127	276	–	165	276	–	165	276	–	165	276	–
	1¼	32	140	280	–	140	280	–	–	–	–	178	280	–	–	–	–
	1½	40	165	313	–	165	313	–	190	313	–	190	313	–	190	313	–
	2	50	178	355	–	178	355	–	216	355	–	216	355	–	216	355	–
	2½	65	190	409	–	190	409	–	241	409	–	241	409	–	241	409	–
	3	80	203	475	–	203	475	–	283	475	–	283	475	–	283	475	–
	4	100	229	503	–	229	503	–	305	503	–	305	503	–	305	503	–
	5	125	356	548	–	356	548	–	381	548	–	381	548	–	–	–	–
	6	150	394	581	–	394	581	–	403	581	–	403	581	–	403	581	–
BODY			A351 Gr.CF8			A351 Gr.CF8M			SCPH2 (WCB)			SCS13A			A216 Gr.WCB		
BONNET			A351 Gr.CF8			A351 Gr.CF8M			SCPH2			SCS13A			A216 Gr.WCB		
STEM			A276 TYPE304			A276 TYPE316			SUS304			SUS304			A276 TYPE304		
DISC			A276 TYPE304 / A351Gr.CF8			A276 TYPE316 / A351 Gr.CF8M			SUS304 / SCS13A			SUS304 / SCS13A			A276 TYPE304 / A351 Gr.CF8		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		

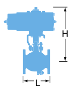


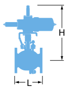


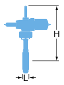


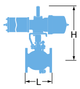


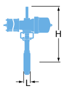






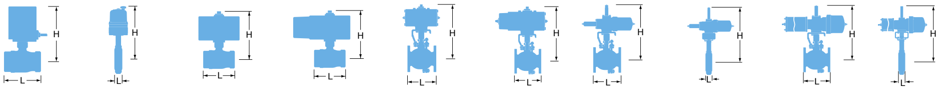






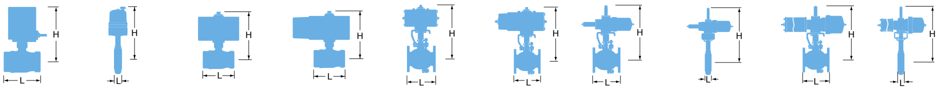
TYPE			FLOATING BALL			FLOATING BALL			BUTTERFLY			BUTTERFLY			BUTTERFLY		
Actuators Valves																	
FIG			FAS-300UTDZ			FAS-300UTDZM			FAS-10XJME			FAS-10DJ			FAS-10DJE		
PRESSURE			Class 300			Class 300			10K			10K			10K		
END CONNECTION			ASME B16.18			ASME B16.18			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	215	–	140	215	–	–	–	–	–	–	–	–	–	–
	¾	20	152	241	–	152	241	–	–	–	–	–	–	–	–	–	–
	1	25	165	276	–	165	276	–	–	–	–	–	–	–	–	–	–
	1½	40	190	313	–	190	313	–	33	274	–	–	–	–	–	–	–
	2	50	216	355	–	216	355	–	43	278	–	43	293	–	43	293	–
	2½	65	241	409	–	241	409	–	46	303	–	46	301	–	46	301	–
	3	80	283	475	–	283	475	–	46	311	–	46	335	–	46	335	–
	4	100	305	503	–	305	503	–	52	364	–	52	384	–	52	384	–
	5	125	–	–	–	–	–	–	56	396	–	56	412	–	56	412	–
	6	150	403	581	–	403	581	–	56	453	–	56	468	–	56	468	–
	8	200	–	–	–	–	–	–	60	511	–	60	522	–	60	522	–
	10	250	–	–	–	–	–	–	–	–	–	68	578	–	68	578	–
BODY			A351 Gr.CF8			A351 Gr.CF8M			Aluminum Die-Cast			FCD450-10			FCD450-10		
BONNET			A351 Gr.CF8			A351 Gr.CF8M			–			–			–		
STEM			A276 TYPE304			A276 TYPE316			SUS410			SUS403 / SUS410			SUS403 / SUS410		
DISC			A276 TYPE304 / A351 Gr.CF8			A276 TYPE316 / A351 Gr.CF8M			A276 316 / A351 Gr.CF8M			FCD450-10+ENP			FCD450-10+ENP		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			EPDM			NBR			EPDM		
			Full Port			Full Port						Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc		

TYPE			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			B-10FCT			B-10FCTB			B-10FCTB2L			B-10STLBF			B-10UT		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			BS21 (JIS B0203)			JIS B2239			JIS B2239			JIS B2239			BS21 (JIS B0203)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	72	202	–	–	–	–	–	–	–	–	–	–	62	202	–
	½	15	80	212	–	110	212	–	–	–	–	108	216	–	65	212	–
	¾	20	85	215	–	120	215	–	–	–	–	117	219	–	80	215	–
	1	25	95	222	–	130	222	–	–	–	–	127	227	–	90	222	–
	1¼	32	120	298	–	140	298	–	–	–	–	140	302	–	110	298	–
	1½	40	120	318	–	165	318	–	210	318	–	165	318	–	120	318	–
	2	50	140	365	–	180	365	–	220	367	–	178	365	–	140	365	–
	2½	65	160	390	–	190	390	–	250	392	–	190	390	–	160	390	–
	3	80	182	464	–	200	464	–	260	464	–	203	464	–	182	464	–
	4	100	–	–	–	230	487	–	330	491	–	229	487	–	–	–	–
	5	125	–	–	–	300	600	–	–	–	–	356	600	–	–	–	–
	6	150	–	–	–	340	625	–	–	–	–	394	625	–	–	–	–
	8	200	–	–	–	450	712	–	–	–	–	457	712	–	–	–	–
	10	250	–	–	–	533	772	–	–	–	–	–	–	–	–	–	–
BODY			FC200			FC200			FC200			Ductile Iron			SCS13A		
BONNET			FC200			FC200			FC200			Ductile Iron			SCS13A		
STEM			SUS403			SUS403			SUS403			SUS403			SUS304		
DISC			SUS304 / SCS13A			SUS304 / SCS13A			SCS13A			SCS13A / SUS304			SUS304 / SCS13A		
SEAT			PTFE			PTFE			PTFE			PTFE			PTFE		
			Reduced Port			Full Port			Full Port			Full Port			Full Port		



TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL			3WAY FLOATING BALL		
Actuators Valves																	
FIG			B-10UTDZ			B-10UTDZM			B-10SCTDZ			B-10UTB2L			B-10UTB4LA		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	202	–	108	202	–	108	202	–	–	–	–	120	296	–
	¾	20	117	205	–	117	205	–	117	205	–	–	–	–	140	299	–
	1	25	127	299	–	127	299	–	127	299	–	165	207	–	160	303	–
	1¼	32	140	303	–	140	303	–	–	–	–	–	–	–	–	–	–
	1½	40	165	358	–	165	358	–	165	358	–	210	318	–	180	380	–
	2	50	178	367	–	178	367	–	178	367	–	220	367	–	200	454	–
	2½	65	190	408	–	190	408	–	190	408	–	250	392	–	240	473	–
	3	80	203	470	–	203	470	–	203	470	–	260	464	–	260	578	–
	4	100	229	498	–	229	498	–	229	498	–	330	491	–	330	600	–
	5	125	356	599	–	356	599	–	356	599	–	–	–	–	–	–	–
	6	150	394	632	–	394	632	–	394	632	–	–	–	–	–	–	–
	8	200	457	740	–	457	740	–	457	740	–	–	–	–	–	–	–
	10	250	533	792	–	533	792	–	533	783	–	–	–	–	–	–	–
BODY			SCS13A			SCS14A			SCPH2 (WCB)			SCS13A			SCS13A		
BONNET			SCS13A			SCS14A			SCPH2			SCS13A			SCS13A		
STEM			SUS304			SUS316			SUS304			SUS304			SUS304		
DISC			SUS304 / SCS13A			SUS316 / SCS14A			SUS304 / SCS13A			SUS304 / SCS13A			SUS304 / SCS13A		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		

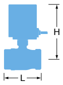
TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			B-10UTBLN			B-150SCTDZ			B-150UTDZ			B-150UTDZM			B-20SCTDZ		
PRESSURE			10K			Class 150			Class 150			Class 150			20K		
END CONNECTION			JIS B2220			ASME B16.5			ASME B16.18			ASME B16.18			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	215	–	108	202	–	108	202	–	108	202	–	140	202	–
	¾	20	152	217	–	117	205	–	117	205	–	117	205	–	152	205	–
	1	25	165	227	–	127	299	–	127	299	–	127	299	–	165	299	–
	1¼	32	–	–	–	–	–	–	140	303	–	140	303	–	–	–	–
	1½	40	191	322	–	165	358	–	165	358	–	165	358	–	190	358	–
	2	50	216	368	–	178	367	–	178	367	–	178	367	–	216	367	–
	2½	65	240	392	–	190	408	–	190	408	–	190	408	–	241	408	–
	3	80	250	467	–	203	470	–	203	470	–	203	470	–	283	470	–
	4	100	280	493	–	229	498	–	229	498	–	229	498	–	305	498	–
	5	125	–	–	–	356	599	–	356	599	–	356	599	–	381	599	–
	6	150	–	–	–	394	632	–	394	632	–	394	632	–	403	632	–
	8	200	–	–	–	457	740	–	457	740	–	457	740	–	502	740	–
	10	250	–	–	–	533	783	–	533	783	–	533	783	–	–	–	–
BODY			SCS13A			A216 Gr.WCB			A351 Gr.CF8			A351 Gr.CF8M			SCPH2 (WCB)		
BONNET			SCS13A			A216 Gr.WCB			A351 Gr.CF8			A351 Gr.CF8M			SCPH2		
STEM			SUS304			A276 TYPE304			A276 TYPE304			A276 TYPE316			SUS304		
DISC			SUS304 / SCS13A			A276 TYPE304 / A351 Gr.CF8			A276 TYPE304 / A351 Gr.CF8			A276 TYPE316 / A351 Gr.CF8M			SUS304 / SCS13A		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		

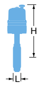


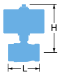
TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			B-20UTDZ			B-20UTDZM			B-300SCTDZ			B-300UTDZ			B-300UTDZM		
PRESSURE			20K			20K			Class 300			Class 300			Class 300		
END CONNECTION			JIS B2220			JIS B2220			ASME B16.5			ASME B16.18			ASME B16.18		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	202	–	140	202	–	140	202	–	140	202	–	140	202	–
	¾	20	152	205	–	152	205	–	152	205	–	152	205	–	152	205	–
	1	25	165	299	–	165	299	–	165	299	–	165	299	–	165	299	–
	1¼	32	178	303	–	178	303	–	–	–	–	–	–	–	–	–	–
	1½	40	190	358	–	190	358	–	190	358	–	190	358	–	190	358	–
	2	50	216	367	–	216	367	–	216	367	–	216	367	–	216	367	–
	2½	65	241	408	–	241	408	–	241	408	–	241	408	–	241	408	–
	3	80	283	470	–	283	470	–	283	470	–	283	470	–	283	470	–
	4	100	305	498	–	305	498	–	305	498	–	305	498	–	305	498	–
	5	125	381	599	–	381	599	–	–	–	–	–	–	–	–	–	–
	6	150	403	632	–	403	632	–	403	632	–	403	632	–	403	632	–
	8	200	502	740	–	502	740	–	502	740	–	502	740	–	502	740	–
BODY			SCS13A			SCS14A			A216 Gr.WCB			A351 Gr.CF8			A351 Gr.CF8M		
BONNET			SCS13A			SCS14A			A216 Gr.WCB			A351 Gr.CF8			A351 Gr.CF8M		
STEM			SUS304			SUS316			A276 TYPE304			A276 TYPE304			A276 TYPE316		
DISC			SUS304 / SCS13A			SUS316 / SCS14A			A276 TYPE304 / A351 Gr.CF8			A276 TYPE304 / A351 Gr.CF8			A276 TYPE316 / A351 Gr.CF8M		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		

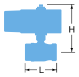
TYPE			BUTTERFLY			BUTTERFLY			FLOATING BALL			FLOATING BALL			3WAY FLOATING BALL		
Actuators Valves																	
FIG			B-10DJ			B-10DJE			BS-10FCT			BS-10FCTB			BS-10FCTB2L		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)			BS21 (JIS B0203)			JIS B2239			JIS B2239		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	–	–	–	–	–	–	72	202	–	–	–	–	–	–	–
	½	15	–	–	–	–	–	–	80	212	–	110	212	–	–	–	–
	¾	20	–	–	–	–	–	–	85	215	–	120	215	–	–	–	–
	1	25	–	–	–	–	–	–	95	222	–	130	222	–	–	–	–
	1¼	32	–	–	–	–	–	–	120	298	–	140	298	–	–	–	–
	1½	40	–	–	–	–	–	–	120	318	–	165	318	–	210	318	–
	2	50	43	374	–	43	374	–	140	365	–	180	365	–	220	367	–
	2½	65	46	382	–	46	382	–	–	–	–	190	390	–	250	392	–
	3	80	46	420	–	46	435	–	182	464	–	200	464	–	260	464	–
	4	100	52	445	–	52	445	–	–	–	–	230	487	–	330	491	–
	5	125	56	473	–	56	473	–	–	–	–	300	600	–	–	–	–
	6	150	56	485	–	56	545	–	–	–	–	340	625	–	–	–	–
	8	200	60	570	–	60	570	–	–	–	–	450	712	–	–	–	–
	10	250	68	709	–	68	709	–	–	–	–	533	772	–	–	–	–
	12	300	78	734	–	78	734	–	–	–	–	–	–	–	–	–	–
BODY			FCD450-10			FCD450-10			FC200			FC200			FC200		
BONNET			–			–			FC200			FC200			FC200		
STEM			SUS403 / SUS410			SUS403 / SUS410			SUS403			SUS403			SUS403		
DISC			FCD450-10+ENP			FCD450-10+ENP			SUS304 / SCS13A			SUS304 / SCS13A			SCS13A		
SEAT			NBR			EPDM			PTFE			PTFE			PTFE		
			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc			Reduced Port			Full Port			Full Port		

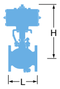
Bronze & Brass
Cast Iron
Ductile Iron
Stainless Steel
Carbon Steel
Butterfly Valve
Ball Valve
Ball Valve Seat
Actuated Valve

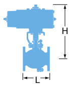


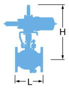


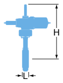


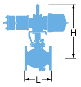


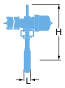






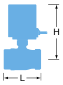


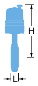


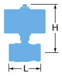


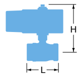
TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			BS-10STLBF			BS-10UT			BS-10UTDZ			BS-10UTDZM			BS-10SCTDZ		
PRESSURE			10K			10K			10K			10K			10K		
END CONNECTION			JIS B2239			BS21 (JIS B0203)			JIS B2220			JIS B2220			JIS B2220		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	⅜	10	–	–	–	62	202	–	–	–	–	–	–	–	–	–	–
	½	15	108	216	–	65	212	–	108	202	–	108	202	–	108	202	–
	¾	20	117	219	–	80	215	–	117	205	–	117	205	–	117	205	–
	1	25	127	227	–	90	222	–	127	299	–	127	299	–	127	299	–
	1¼	32	140	302	–	110	298	–	140	303	–	140	303	–	–	–	–
	1½	40	165	318	–	120	318	–	165	358	–	165	358	–	165	358	–
	2	50	178	365	–	140	365	–	178	367	–	178	367	–	178	367	–
	2½	65	190	390	–	160	390	–	190	408	–	190	408	–	190	408	–
	3	80	203	464	–	182	464	–	203	470	–	203	470	–	203	470	–
	4	100	229	487	–	–	–	–	229	498	–	229	498	–	229	498	–
	5	125	356	600	–	–	–	–	356	599	–	356	599	–	356	599	–
	6	150	394	625	–	–	–	–	394	632	–	394	632	–	394	632	–
	8	200	457	712	–	–	–	–	457	740	–	457	740	–	457	740	–
	10	250	–	–	–	–	–	–	533	792	–	533	792	–	533	792	–
BODY			Ductile Iron			SCS13A			SCS13A			SCS14A			SCPH2 (WCB)		
BONNET			Ductile Iron			SCS13A			SCS13A			SCS14A			SCPH2		
STEM			SUS403			SUS304			SUS304			SUS316			SUS304		
DISC			SCS13A / SUS304			SUS304 / SCS13A			SUS304 / SCS13A			SUS316 / SCS14A			SUS304 / SCS13A		
SEAT			PTFE			PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		

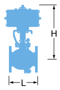
TYPE			3WAY FLOATING BALL			3WAY FLOATING BALL			FLOATING BALL			LAMBDA PORT			FLOATING BALL		
Actuators Valves																	
FIG			BS-10UTB2L			BS-10UTB4LA			BS-10UTBLN			BS-10UVC			BS-150SCTDZ		
PRESSURE			10K			10K			10K			10K			Class 150		
END CONNECTION			JIS B2220			JIS B2220			JIS B2220			JIS B2220			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	–	–	–	120	296	–	140	215	–	–	–	–	108	202	–
	¾	20	–	–	–	140	299	–	152	217	–	–	–	–	117	205	–
	1	25	165	207	–	160	303	–	165	227	–	127	306	–	127	299	–
	1½	40	210	318	–	180	380	–	191	322	–	165	369	–	165	358	–
	2	50	220	367	–	200	454	–	216	368	–	178	375.5	–	178	367	–
	2½	65	250	392	–	240	473	–	240	392	–	190	459.5	–	190	408	–
	3	80	260	464	–	260	578	–	250	467	–	203	466	–	203	470	–
	4	100	330	491	–	330	600	–	280	493	–	229	493	–	229	498	–
	5	125	–	–	–	–	–	–	–	–	–	–	–	–	356	599	–
	6	150	–	–	–	–	–	–	–	–	–	394	638	–	394	632	–
	8	200	–	–	–	–	–	–	–	–	–	457	727	–	457	740	–
	10	250	–	–	–	–	–	–	–	–	–	533	751	–	533	792	–
BODY			SCS13A			SCS13A			SCS13A			SCS13A			A216 Gr.WCB		
BONNET			SCS13A			SCS13A			SCS13A			SCS13A			A216 Gr.WCB		
STEM			SUS304			SUS304			SUS304			SUS316			A276 TYPE304		
DISC			SUS304 / SCS13A			SUS304 / SCS13A			SUS304 / SCS13A			SCS14A			A276 TYPE304 / A351 Gr.CF8		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			–			HYPATITE® PTFE		
									Full Port			Full Port			Full Port		

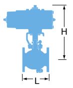


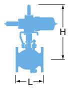


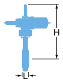


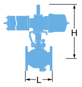


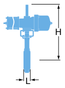












TYPE			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL			FLOATING BALL		
Actuators Valves																	
FIG			BS-150UTDZ			BS-20SCTDZ			BS-20UTDZ			BS-20UTDZM			BS-300SCTDZ		
PRESSURE			Class 150			20K			20K			20K			Class 300		
END CONNECTION			ASME B16.18			JIS B2220			JIS B2220			JIS B2220			ASME B16.5		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	108	202	–	140	202	–	140	202	–	140	202	–	140	202	–
	¾	20	117	205	–	152	205	–	152	205	–	152	205	–	152	205	–
	1	25	127	299	–	165	299	–	165	299	–	165	299	–	165	299	–
	1¼	32	140	303	–	–	–	–	178	303	–	178	303	–	–	–	–
	1½	40	165	358	–	190	358	–	190	358	–	190	358	–	190	358	–
	2	50	178	367	–	216	367	–	216	367	–	216	367	–	216	367	–
	2½	65	190	408	–	241	408	–	241	408	–	241	408	–	241	408	–
	3	80	203	470	–	283	470	–	283	470	–	283	470	–	283	470	–
	4	100	229	498	–	305	498	–	305	498	–	305	498	–	305	498	–
	5	125	356	599	–	381	599	–	381	599	–	381	599	–	–	–	–
	6	150	394	632	–	403	632	–	403	632	–	403	632	–	403	632	–
	8	200	457	740	–	502	740	–	502	740	–	502	740	–	502	740	–
	10	250	533	792	–	–	–	–	–	–	–	–	–	–	–	–	–
BODY			A351 Gr.CF8			SCPH2 (WCB)			SCS13A			SCS14A			A216 Gr.WCB		
BONNET			A351 Gr.CF8			SCPH2			SCS13A			SCS14A			A216 Gr.WCB		
STEM			A276 TYPE304			SUS304			SUS304			SUS316			A276 TYPE304		
DISC			A276 TYPE304 / A351Gr.CF8			SUS304 / SCS13A			SUS304 / SCS13A			SUS316 / SCS14A			A276 TYPE304 / A351 Gr.CF8		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE			HYPATITE® PTFE		
			Full Port			Full Port			Full Port			Full Port			Full Port		

TYPE			FLOATING BALL			FLOATING BALL			BUTTERFLY			BUTTERFLY		
Actuators Valves														
FIG			BS-300UTDZ			BS-300UTDZM			BS-10DJ			BS-10DJE		
PRESSURE			Class 300			Class 300			10K			10K		
END CONNECTION			ASME B16.18			ASME B16.18			Wafer Type (JIS 5K,10K)			Wafer Type (JIS 5K,10K)		
DIMENSIONS	inch	mm	L	H	D	L	H	D	L	H	D	L	H	D
	½	15	140	202	–	140	202	–	–	–	–	–	–	–
	¾	20	152	205	–	152	205	–	–	–	–	–	–	–
	1	25	165	299	–	165	299	–	–	–	–	–	–	–
	1¼	32	190	358	–	190	358	–	–	–	–	–	–	–
	1½	40	216	367	–	216	367	–	43	374	–	43	374	–
	2	50	241	408	–	241	408	–	46	382	–	46	382	–
	2½	65	283	470	–	283	470	–	46	435	–	46	420	–
	3	80	305	498	–	305	498	–	52	445	–	52	445	–
	4	100	–	–	–	–	–	–	56	473	–	56	473	–
	5	125	403	632	–	403	632	–	56	545	–	56	485	–
	6	150	502	740	–	502	740	–	60	570	–	60	570	–
	8	200	–	–	–	–	–	–	68	709	–	68	709	–
	10	250	–	–	–	–	–	–	78	734	–	78	734	–
BODY			A351 Gr.CF8			A351 Gr.CF8M			FCD450-10			FCD450-10		
BONNET			A351 Gr.CF8			A351 Gr.CF8M			–			–		
STEM			A276 TYPE304			A276 TYPE316			SUS403 / SUS410			SUS403 / SUS410		
DISC			A276 TYPE304 / A351 Gr.CF8			A276 TYPE316 / A351 Gr.CF8M			FCD450-10+ENP			FCD450-10+ENP		
SEAT			HYPATITE® PTFE			HYPATITE® PTFE			NBR			EPDM		
			Full Port			Full Port			Ductlie iron (Ni-plated) disc			Ductlie iron (Ni-plated) disc		

⚠ CAUTION

Pressure-temperature ratings and other performance data published in this catalog have been developed from our design calculation, in-house testing, field reports provided by our customers and/or published official standards or specifications. They are good only to cover typical applications as a general guideline to users of KITZ products introduced in this catalog.

For any specific application, users are kindly requested to contact KITZ Corporation for technical advice, or to carry out their own study and evaluation for proving the suitability of these products to such an application. Failure to follow this request could result in property damage and/or personal injury, for which we shall not be liable.

While this catalog has been compiled with the utmost care, we assume no responsibility for errors, impropriety, or inadequacy. Any information provided in this catalog is subject to from-time-to-time change without notice for error rectification, product discontinuation, design modification, new product introduction, or any other cause that KITZ Corporation considers necessary. This edition cancels all previous issues.

Read the instruction manual carefully before use.

⚠ NOTICE

If any products designated as strategic material in the Foreign Exchange and Foreign Trade Law, Cabinet Order Concerning Control of Export Trade, Cabinet Order Concerning Control of Foreign Exchange, and other related laws and ordinances ("Foreign Exchange Laws") are exported to any foreign country or countries, an export license issued by the Japanese Government will be required under the Foreign Exchange Laws.

Further, there may be cases where an export license issued by the government of the United States or other country will be required under the applicable export-related laws and ordinances in such relevant countries.

The contract shall become effective subject to the fact that a relevant export license is obtained from the Japanese Government.

A chrysanthemum-handle is a symbol of KITZ,
the brand of valve reliability

ISO 9001 certified since 1989

KITZ

KITZ CORPORATION

1-10-1 Nakase, Mihama-ku, Chiba 261-8577, Japan
International Sales Dept.
Phone : 81-43-299-1730, 1732 and 1733
Fax : 81-43-299-0121

—— Distributed by ——

Printed in Japan

1510①MZ